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What is the impact of Dementia Go's Moving Moments in residential homes for residents, relatives and staff?

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What is the impact of DementiaGo's Moving Moments in residential homes for residents, relatives and staff?

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Summary of Thesis

Background: This thesis aimed to evaluate the impact of DementiaGo's Moving Moments project in Gwynedd Council's residential homes. DementiaGo are supporting staff from eleven Gwynedd Council residential homes to promote physical activity and movement, to empower residents to move more as a sedentary lifestyle is very common in residential homes. By increasing physical movement of residents, the wellbeing and quality of life of residents is hoped to improve.
Methods: The research includes a review of systematic reviews on physical activity interventions for people living with dementia in residential homes, which summarises what is already known in the field and highlights the gaps in the literature. Further, the research includes a qualitative empirical study that consisted of exploring the impact of DementiaGo's Moving Moments from the perspectives of residents, relatives and staff through 33 one-off semi-structured interviews and the researcher's personal reflective pieces from various points along the research process. Data were analysed through hybrid thematic analysis as both inductive and deductive techniques were adopted to analyse the data. The epistemological stance of the thematic analysis was a realist method,
Results: Thematic analysis identified four themes; in the moment and beyond, personal impact on quality of life, barriers to overcome and moving forward. The findings demonstrate the positive impact the project Moving Moments is having on all staff and residents involved in the Moving Moments project, as well as some family members. Further, recommendations are offered for the future delivery of the Moving Moments project which DementiaGo have begun implementing including organising practical training on leading physical activity for staff.
Conclusion: The findings from the thesis are discussed, along with practical implications and limitations of the study. A major strength from the thesis is that the research has led to changes being already implemented based on the recommendations being reported to DementiaGo's project manager across the year. The research supports that the programme could be implemented widely across Wales and beyond by other authorities as a demonstration of improving the wellbeing of residential home residents and confidence of care staff.

Declaration

Yr wyf drwy hyn yn datgan mai canlyniad fy ymchwil fy hun yw'r thesis hwn, ac eithrio lle nodir yn wahanol. Caiff ffynonellau eraill eu cydnabod gan droednodiadau yn rhoi cyfeiriadau eglur. Nid yw sylwedd y gwaith hwn wedi cael ei dderbyn o'r blaen ar gyfer unrhyw radd, ac nid yw'n cael ei gyflwyno ar yr un pryd mewn ymgeisiaeth am unrhyw radd oni bai ei fod, fel y cytunwyd gan y Brifysgol, am gymwysterau deuol cymeradwy.

I hereby declare that this thesis is the results of my own investigations, except where otherwise stated. All other sources are acknowledged by bibliographic references. This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree unless, as agreed by the University, for approved dual awards.

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Chapter 1: Introduction

Introduction

Prevalence and impact of dementia

Dementia is a global condition caused by diseases damaging the brain, such as Alzheimer's disease or strokes (Alzheimer's Society, 2017). Alzheimer's disease is the most common type of dementia (62%), others include frontotemporal dementia, vascular dementia, mixed dementia and more (Dementia UK website). Dementia is characterised by irreversible loss of cognitive and physical ability, accompanied by a variety of neuropsychiatric symptoms and reduced ability to perform activities of daily living (Dening & Thomas, 2013).

Each person with dementia will experience dementia in a different way but each person will generally have cognitive symptoms including problems with day-to-day memory, language, concentrating, problem-solving and orientation (Alzheimer's Society, 2017). As dementia is a progressive disease, symptoms gradually worsen over time, the rates at which this happens varies from person to person (Alzheimer's Society, 2017). Cognitive, physical, and behavioural functions deteriorates further as the condition progresses, and is associated with a reduced ability to function independently (Royall et al., 2007). In the later stages of dementia, the condition may impact some people's physical function and mobility, as they may gradually lose the ability to walk and are more likely to fall (Alzheimer's Society, 2017).

The diagnosis of dementia usually occurs by a specialist doctor, such as a psychiatrist, a geriatrician or a neurologist (Alzheimer's Society, 2017). As there is no single test for dementia, diagnosis is based on tests of mental abilities, taking a history of the person, and physical examination to exclude other possible causes of the person's symptoms (Alzheimer's Society, 2017). In some cases, a scan of the brain is needed to make the diagnosis. To date, there is no cure to dementia, but once diagnosis is made, the person with dementia can be prescribed with drugs that can help with the symptoms of dementia and possibly stop the symptoms from progressing for a while (Alzheimer's Society, 2017). The advice on preventing dementia is to lead a healthy lifestyle by exercising regularly, maintaining a healthy weight, no smoking and drink alcohol only in moderation; which have all been shown to contribute to a reduced risk of dementia (Alzheimer's Society, 2017).

There are over 850,000 people living with dementia in the UK (Alzheimer's Society, 2017), with an estimated 11,000 people living with dementia in North Wales (North Wales population assessment,

April 2017). However it is very probably that there are many more people living with dementia in North Wales, as according to Alzheimer's Research UK, the dementia diagnosis rate in Wales was only 53% in 2017/2018.

The risk of developing dementia increases with age (over 65 years old), and due to ageing population, it is estimated that by 2021 the number of people living with dementia in the UK will rise to one million (Alzheimer's Society, 2014). Between 2015 and 2035, it is anticipated that the number of people living with dementia in Wales will increase by 72% (Institute of Public Care, 2015). Furthermore, it is estimated that over 100,000 people in Wales will be living with dementia by 2055 (North Wales population assessment, April 2017).

According to Matthews et al., (2013), the prevalence of dementia in residential homes has risen from 56% in 2002 to 70% in 2013. In 2014, it was estimated that 311,730 people that were resident in residential homes in the UK had dementia, making up 70% of all care home residents. (Prince et al., 2014). Furthermore, it is suggested that three quarters of people in residential homes have some degree of dementia, although not diagnosed (National Public Health Service for Wales, 2008).

Dementia, along with other mental health problems in older people, are major threats to the lives of individuals and their families. Furthermore, they result in significant requirements for health and social care, meaning that they also come at a major cost and have a significant financial impact. Based on UK figures, the annual direct cost to the NHS in Wales of caring for people with Alzheimer's disease in 2006 was estimated to be at least £80-£120 million (National Collaborating Centre for Mental Health, 2006). Moreover, taking into account the costs of informal caring and the costs to all statuary agencies, it is estimated that the total cost of caring for people with dementia is around £700 million (National Collaborating Centre for Mental Health, 2006). As the prevalence of dementia continues to grow, it is very likely that the cost will continue to grow too. Relating to UK residential homes, the average annual cost per person in the mild stages of dementia is £31,000, £38,000 for residents in the moderate stages of dementia, and £37,000 per person in the severe stages of dementia, which is much higher compared to patients with cancer, stroke and heart disease (Alzheimer's Research Trust, 2010). In 2018, dementia was the leading cause of death in England and Wales, accounting for 12.8% of all deaths registered (Office for National Statistics, 2018).

Quality of life in residential care homes

Even though quality of care for people living in residential homes has improved over the previous years and people's life expectancy has increased, there is still a wealth of evidence which proves that older people may be becoming lonelier, more depressed and many are living with low levels of life satisfaction and wellbeing. In recent years, a focus on quality of life has become increasingly prevalent within studies of people living with dementia (e.g. Jing, Willis & Feng, 2016; Lodgson & Teri, 2018).

The World Health Organisation (WHO) defines QoL as:

> 'the product of the interplay between social, health, economic and environmental conditions which affect human and social development. It is a broad-ranging concept, incorporating a person's physical health, psychological state, level of independence, social relationships, personal beliefs and relationship to salient features in the environment. As people age, their quality of life is largely determined by their ability to access needed resources and maintain autonomy, independence, and social relationships'. (World Health Organization, 2004, p.48).

Moving into a care home setting may result in changes to their quality of life due to changes in a person's social and physical environment. Dementia is often associated with a lower quality of life (QoL) of residents with dementia in nursing homes (Wetzles, Zuidema, de Jonghe, Verhey & Koopmans, 2010). The Older People's Commissioner for Wales (2014) states that quality of life should be formally recognised and be at the heart of the residential care sector in Wales, to ensure that residents have lives that have value, meaning and purpose. Therefore, optimal QoL is necessary for every individual to live life optimally and people living with dementia are no exception.

It is believed by some people that QoL is lost once a person is diagnosed with dementia, however, despite changes and loss of abilities as the disease progresses, people living with dementia can still find pleasure and experience satisfaction (Alzheimer Society Canada, 2017). Therefore, it is important that QoL of people living with dementia is a central focus of care (Alzheimer Society Canada, 2017). However, little is known about what factors are associated with a change in quality of life in people living with dementia. Over time, studies that examined quality of life and

dementia have shown varying results. A study by Lyketsos et al., (2003) on the change in quality of life among residents with dementia in a long-term facilty detected an overall decline in mean QoL scores at 2 years, although nearly half of the QoL scores remained unchanged or were higher at follow up. This suggested that QoL is preserved in some people with advanced dementia despite progression of the disease. Another study (Selwood, Thorgrimse, & Orrell, 2005) detected no difference in QoL scores in people with dementia at 1 year follow up, thus also suggesting that QoL does not necessarily decline over time. The varying results among quality of life and dementia highlight the need for further research.

A systematic review on living well with dementia (Martyr et al., 2018) highlights the importance of QoL for people living with dementia and states that every effort should be made to provide an optimum quality of life for people living with dementia, especially as the disease progresses. The systematic review highlighted that factors that contributed to a better quality of life included person-centred care for people in residential care, good relationships with family and friends, social interaction, being able to manage everyday functioning, having good physical and mental health and receiving high-quality care (Martyr et al., 2018).

Legislative changes in Wales, as noted in both the Well-being of Future Generations Act 2015 and the Social Services and Wellbeing (Wales) Act 2014**,** demonstrate the Welsh Government's focus on improving the wellbeing and quality of life of people receiving care services in Wales. Moreover, the Welsh Government have developed a Dementia Action Plan strategy for 2018-2022, which include the fifth chapter 'Living as well as possible, for as long as possible with dementia' (p.18). Therefore, it is clear today that enabling people living with the condition to 'live well', although the associated challenges, is a priority for policy and practice (e.g. Department of Health, 2009; Department of Health, Social Services and Public Safety, 2011; Scottish Government, 2010; Welsh Assembly Government, 2011; Welsh Assembly Government 2018; Department of Health, 2015).

Person-centred care

In 1997, Kitwood changed the culture of dementia care by urging people to see more to a person with dementia than the disease itself, and introduced the concepts of personhood and person-centred care in dementia care (Kitwood, 1997). Moving from the medical model to a

biopsychosocial model of dementia care, Kitwood emphasised on recognising human value, individuality and personal perspective.

Kitwood (1997) defines personhood as "a standing or status that is bestowed upon one human being, by others, in the context of relationship and social being" (p.8, Kitwood, 1997). In order to achieve personhood, Kitwood suggests that people with dementia have five main psychological needs: comfort, attachment, occupation, and identity which in turn contribute to the central need of love.

Kitwood's co-worker, Brooker (2004), attempted to define person-centred care, arguing that it has different meanings to different people. Brooker (2004) suggests that there are four elements to person-centred care: Valuing people with dementia and those who care for them, treating people as individuals, looking at the world from the perspectives of the person with dementia, and lastly, a positive social environment in which the person living with dementia can experience relative wellbeing.

Care providers strive for person-centred care, as it is essential to good dementia care (Fazio Pace, Flinner & Kallmyer, 2018). This philosophy of care challenges the traditional medical model of care that focuses on processes, schedules, and organizational needs (Fazio et al., 2018). To work efficiently it requires commitment from all staff within the organization care (Fazio et al., 2018). Implementing person-centred care requires a care provider to look beyond the dementia, and recognise the person as an individual. Further, rather than simply providing care in accordance with routines and checklist, Kitwood (1997) encourages staff to focus less on what is done, and more on how it is done.

The values of personhood and person-centred care recognises the central importance of the voice of the person with dementia; for example, the person with dementia's choice of activity etc. By successfully doing this, person-centred care helps people living with dementia to maintain quality of life, dignity and integrity (Brooker, 2004; NICE, 2018). Personhood, which is formed of recognition, respect and trust, also supporting the psychosocial needs of people with dementia, is therefore enabled via person-centred care (Kitwood, 1997). As argued by Kitwood (1995), the ability of the person to maintain the self, personhood and his/her psychological needs is not just reliant on his or her cognition. Those around this individual have a moral duty to support his or her personhood. This highlights the importance of care givers, especially in residential home who did

not know the person before, to spend time to provide efficient person-centred care for each resident, in order to maintain personhood and quality of life.

Epp (2003) highlighted several early studies on person-centred care that revealed positive results. Burgener and Dickerson-Putnam (1999) revealed that a person-centred approach, including the maintenance of social activities and past pleasures, was associated with positive quality of life outcomes in people living with advanced dementia. Another benefit of implementing person-centred care was highlighted by Sabat et al., (1999), who found that the implementation of person-centred care could maintain self-esteem of people living with dementia, while minimising anxiety, grief, anger, and the feeling of being a burden to others. More recent, research on person-centred care practices has shown how it can make life better for residents, as well as improve working conditions for care staff (Koren, 2010).

Readers should be aware that using a person-centred approach to research means there is not one sole truth about the experience of dementia, as each person with dementia is an individual. There are therefore many perspectives and experiences of dementia, and all must be respected.

Sedentary behaviour in residential homes

As support to live at home has improved over time, people are moving into residential homes at a later age, meaning that the length of time that people live in care homes is reducing. However, the needs of residents are becoming increasingly complex (North Wales population assessment, April 2017). It is believed that people living with dementia tend to move into a residential home at an average age of 81 years, as opposed to people without a dementia diagnosis, who tend to move into a residential home aged 83 years on average. In North Wales, the average age of people with dementia living in residential homes is 84 years old. Therefore today, people tend to move into a residential home at an older age, with reduced physical fitness as it is known that the aging process tends to reduce physical fitness (Milanović et al., 2013). Furthermore, the aging process is also associated with decreased level of daily activities, although it is known that physical activity is important to maintain independence and quality of life (Brill, 2004).

A recognised problem that has therefore been reported over decades is that residential home residents spend the majority of their time inactive (Sackley, Levin, Cardoso & Hoppitt, 2006). Perrin (1997, p.69) portrayed the typical life of most residents with dementia in residential homes as “consisting of daily 12 hour periods of chair sitting (or possibly corridor-pacing), punctuated spasmodically by brief food or toilet experiences”. Similar, as suggested by an observational study,

97% of residents' days are spent sedentary, with low levels of interaction with staff (Sackley et al., 2006).

Sedentary behaviour can be defined as *"any walking behaviour characterised by an energy expenditure ≤1.5 metabolic equivalents (METs) while in a sitting or reclining posture"* (Barnes et al., 2012), and can have an adverse effect on the quality of life of residents (Forster et al., 2017). Sitting and watching television are examples of sedentary behaviour. This lack of engagement in physical activity is detrimental to quality of life, contributes to social isolation and also has detrimental effects of physical and psychological health (National Institute for Health and Care Excellence, 2008).

Challenges for the dementia care workforce to promote physical movement for quality of life of residents

The benefits of increased activity and the dangers of inactivity are both well recognised, however, providing increased opportunities for movement can be challenging for residential homes. Residential homes themselves reported finding it difficult to improve the mobility and exercise of residents (North Wales population assessment, April 2017).

Residential homes face many conflicting pressures involved in delivering day-to-day care of each resident, often described as task-focused. Care staff have reflected the demands and strain of the working system they are operating within, such as demanding work load and low-staffing, sometimes imposes an approach similar to a 'tick box', where pressure is felt upon on completing prioritised tasks (e.g. Windle et al., 2019). Staff believe that this task-oriented 'tick box' approach to their work produces tension between their intentions to spend quality moments with residents and fulfilling their daily tasks. Performing care tasks often limits the scope for staff and residents to engage in meaningful activities together, such as physical activities, leading to staff feeling pressurised to accomplish tasks, whilst they wish for time to build relationships with residents (Ward et al., 2008).

As stated in the Older People's Commissioner for Wales (2014), a simple concept needs to be reclaimed across residential care. Providing care is more than just about being safe or having physical needs met, it is also about having the best quality of life, in a way that is defined by an

individual. However, due to the task-oriented pressure that the staff face, it is hard to spare time to interact with residents and do activities (a person-centred choice of activity) together. This lack of person-centred care can have a significant impact on a resident's quality of life as care is often delivered with limited time and with a lack of compassion (Older People's Commissioner for Wales, 2014). Understaffing in residential homes makes it even harder for care staff who have even less time to complete all daily care tasks.

Furthermore, another challenge that care staff face is lack of training in aspects other than manual handling, fire safety and safeguarding, which all seem to be prioritised, rather than enhancing personal development skills such as leadership to conduct physical activities with the residents (Older People's commissioner for Wales, 2014; Zalig et al., 2015). Inadequate training can lead to risk averse cultures developing that can results in inactivity and immobility among residents, which can contribute to falls, which is inevitably more damaging to a resident's physical and emotional wellbeing (Older People's commissioner for Wales). As agreed by Harmer and Orrell (2008), care staff need the knowledge, skills and tools to integrate activity participation opportunities into daily care provision. However, care home providers generally indicate that there is no funding for activity programmes, limiting the opportunities for staff training, future service development, and the range of physical activities offered (Bowes et al., 2013).

It is regarded as a necessity for a well-trained care home workforce in order to meet the complex needs of residents with dementia, a significant policy theme and a key objective of the UK national dementia strategy (Department of Health, 2009**).** Yet- care staff are often expected to adopt wider roles with no adequate training and no protected time for these activities, which may not therefore have any priority (Bowes et al., 2013). Care work is often perceived as a 'low skilled job' that is poorly paid, with limited prospects for career progression and professional development (Adult Workforce in England, 2018). Therefore, without the appropriate support and training, staff are at risk of burn out (Pitfield, Shahriyarmolki & Livingston, 2011).

Motivation for increased physical activity in residential homes

Physical activity can be defined as 'body movement that is produced by the contraction of skeletal muscles and that increases energy expenditure' (Chodzko-Zajko, 2009, p.2). Examples of physical activity includes any type of bodily movement such as walking, gardening, laying the table, doing household chores, swimming, walking upstairs, exercise etc. Physical activity in daily life can be

categorized into occupational, sports, conditioning, household, or other activities (Caspersen, Powell, & Christenson, 1985). Exercise is a sub-category of physical activity that is planned, structured, repetitive and has an objective of improving or maintain physical fitness (Caspersen et al., 1985).

As previously mentioned, there is a lack of movement in residential homes as 97% of residents' days are spent sedentary (Sackley et al., 2006). It is therefore unlikely that residents achieve the recommended amount of physical activity per week. The World Health Organisation (WHO) recommend at least 150 minutes a week of physical activity for adults over 65 years old (World Health Organisation, 2010).

The WHO's recommended levels of physical activity for older people include the following:

- Older people should do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week, or do at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week, or an equivalent combination of moderate-intensity and vigorous-intensity activity.
- Aerobic activity should be performed in bouts of at least 10 minutes duration.
- Older people, with poor mobility, should perform physical activity to enhance balance and prevent falls on 3 or more days per week.
- Muscle-strengthening activities should be done involving major muscle group, on 2 or more days a week.
- When older people cannot do the recommended amounts of physical activity due to health conditions, they should be physical active as their abilities and conditions allow.

The proportion of those who do not meet the recommended guidelines is around 45% of people aged 60 years and over (Hallal et al., 2012), increasing to 75% for people aged 75 years and over (Australian Institute of Health and Welfare, 2014). Due to ageing population, the older people's engagement with physical activities in an increasing problem as it is a public health concern worldwide.

Even a low level of physical activity has been shown to improve the mental wellbeing of older people (Windle, 2014). Although there is no cure for dementia to date, stimulating physical activity is shown to be a promising method for slowing down dementia-related decline and improve brain vitality (Groot et al., 2016). Furthermore, empirical evidence supports that movement stimulation

is positively associated with improvements in abilities to perform activities of daily living (ADLs) and physical performance among older people living with dementia (Lee, Park & Park, 2016), as well as cardiovascular fitness, gait, balance, fall reduction, and well-being in the general older population (Singh, 2002; Chodzko-Zajiko et al., 2009). Physical activity has also been found to significantly reduce pain (Ambrose & Golightly, 2015; Dobson, McMillan & Li, 2014; Wallis & Taylor, 2011). Another benefit of doing physical activity is that the ability to perform, either independently or with support, provides the resident intrinsic satisfaction because of their fulfilment of the intrinsic need for self-maintenance (Baum 1995; Law et al., 1996). Further, physical activity is shown to be a promising method of positively impacting self-esteem and confidence of participants (Bowes et al., 2013). To support this statement, a study by Rejeski et al., (2008) on older adults with impaired lower extremity functioning found that physical activity improved the participants' self-efficacy and satisfaction related to physical functioning.

As an attempt to try and promote movement in residential homes in order to improve quality of life of residents, 'DementiaGo' have begun working with 11 Gwynedd council residential homes.

DementiaGo

DementiaGo is a Gwynedd Council project which was established in September 2014, funded by an Intermediate Care grant from the Welsh Government. This funding is to ensure that the ageing population can live independently in their community for as long as they are able to, and that they live well in their communities for as long as possible. DementiaGo started by offering physical activity community classes for people living with mild to moderate stages of dementia, which is the greater percentages of people living with dementia in Gwynedd, and their caregivers, in a fun and save environment. People living with dementia are referred to the classes by clinical professionals and through self-referral. DementiaGo's mission statement is 'to provide group physical activity opportunities in communities throughout Gwynedd, so that we can support and enhance quality of life for people affected by dementia'.

One way that DementiaGo, consisting of 4 experienced and qualified staff (2 x full time, 2 x part time), achieve their mission statement is by running 12 weekly community based group based classes for people affected by dementia. Classes are also accessible for general older adults under prevention. The community classes take place in leisure centres, local community centres and residential homes throughout each area of Gwynedd (Arfon, Dwyfor and Meirionnydd). The classes are delivered by the DementiaGo team who are advanced level 4 instructors that have

qualifications including Exercise Referral, Falls Prevention and Cardiac Rehabilitation. An average of 90 participants attend the community classes per week, 48% of the participants have been diagnosed with dementia.

The physical activity community classes consists of cardiovascular aerobic activities, as well as strength, balance and co-ordination activities. Other integral parts of the classes include games (such as Boccia) and a cup of tea at the end of the class to socialise and share thoughts/ideas with the rest of the class. One method that is used to encourage everybody to talk and have a conversation is by using the 'memory ball'. The memory ball is passed around the people one person at a time, and the person holding the ball must share their answer to where their thumb lands on the ball; for example, 'my favourite childhood memories', 'things I used to collect', 'my favourite food' etc. This is a good way of getting everyone in the class involved in conversations, and trigger memories/experiences.

As previously mentioned, one way that DementiaGo is aiming to achieve their mission statement is by supporting people living with dementia, their relatives and carers to live well with the condition by offering physical activity community classes, improving physical health, wellbeing and quality of life, and reducing isolation. Another way that DementiaGo is aiming to achieve their mission statement is by raising awareness of dementia, reducing the stigma and breaking down barriers, by educating communities about dementia. This is done by running 'dementia friends' sessions, where attendees are educated about what living with dementia is like and take home 5 key messages about dementia. DementiaGo's 'Dementia Friends' sessions have been delivered to people in the community, businesses, emergency services and primary school children. To date, DementiaGo are working hard towards making Porthmadog a dementia friendly community and are receiving the full support of the people living there. To date (2019), DementiaGo have conducted 81 Dementia Friend sessions, making 951 Dementia Friends. Dementia Friends is an Alzheimer's Society initiative that aims to give people a better understanding of Dementia by attending a free information session and committing to a dementia friendly action.

Another way that DementiaGo is aiming to achieve their mission statement is by improving the support network for people living with dementia and their caregivers. DementiaGo, in collaboration with Bangor University's Dementia Research Centre, have set up a DEEP (Dementia Engagement and Empowerment Project) group. DEEP united meet up bi-monthly in Barmouth (Meirionnydd), where 25 participants, on average, attend. Each meeting consist of different agenda with different activities, but each meeting is always relaxed and inviting, giving people the chance

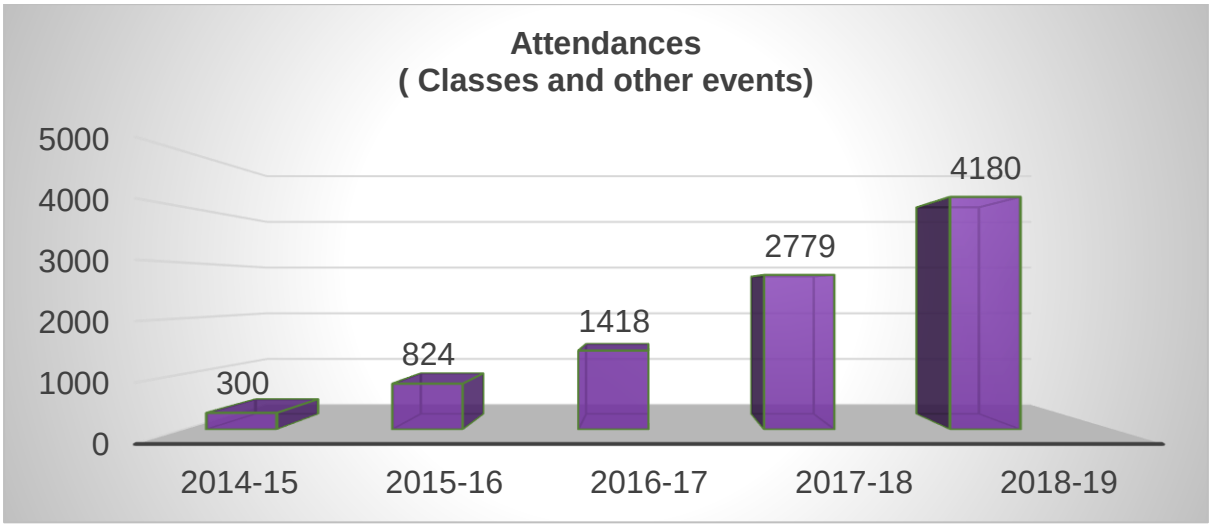
to express themselves and share experiences. DEEP United brings people together, whether they area people living with dementia, caregivers, professionals or volunteers in the field. Inviting professionals (including a community connector, dementia advisers, a specialist early onset Dementia nurse, social worker, physiotherapist etc.) to the meetings empowers individuals living with dementia and their caregivers with information and opportunities to ask any questions they may have.

Further to what has been already mentioned, DementiaGo also run a monthly Gwynedd Boccia league. The Boccia league consits teams with different health conditions such heart disease, Parkinson's, learning difficulties, stroke etc. An average of 60 attend the Boccia league. DementiaGo also organises an annual Boccia tournament, where people with different health conditions across Gwynedd enter teams. An average of 150 people attend the annual tournament which is held at Porthmadog's Glaslyn leisure centre. Other community events that are organised by DementiaGo include special events such as 'Dance for your life' and train trips etc. An average of 75 people attend each special event. One special event, DementiaGo's outing on the Ffestiniog railway followed by a walk and picnic was featured on BBC's Countryfile in August 2018, which attracted 10 million viewers.

Therefore, with all of the mentioned activities and events, DementiaGo are working hard to achieve their mission statement of supporting and enhancing the quality of life of people affected by dementia. Over the years, the number of attendees to classes and other events have grown significantly as illustrated in Figure 1.

Figure 1.

A graph illustrating DementiaGo's attendances between 2014-2019



The most recent development of DementiaGo is the 'Moving Moments' project, which is the focus of this thesis. Evidence suggests that residents in care home settings spend most of their day in a sedentary state with little interaction with care staff (Sackley et al., 2006). The aim of 'Moving Moments' project is to support staff in residential homes to assist their residents who have dementia to move more, which in turn, improving the wellbeing and quality of life of residents. Moving more can include activities as simple as helping with the dishes, laying out the table, gardening, playing Boccia and skittles etc. The benefits of moving more for those living with dementia and carers include improved physical function, improved cardiovascular health, reduce risk of falls due to improved balance, mental wellbeing, improved sleep and passing time in an enjoyable way. Further information on Moving Moments in presented in the method chapter of this thesis.

Aim of the thesis

The aim of the thesis was to explore and evaluate the impact of DementiaGo's Moving Moments project in Gwynedd council residential homes and offer recommendations for improvement.

Research questions

The specific research questions addressed in this thesis are as follows:

1. What are the findings from existing literature on physical activity interventions for people living with dementia in residential homes, and what are the outcomes?
2. What impact is DementiaGo's Moving Moments project having on residents, relatives and staff?

Structure of the thesis

The thesis includes an introduction chapter, a review of systematic reviews, an empirical study, and a discussion chapter.

Chapter 2 is a review of systematic reviews on physical activity interventions for people living with dementia in residential homes. This review summarises what is already known in the field and highlights gaps in the literature e.g. lack of research considering non-physical outcome measures such as quality of life.

Chapter 3 describes the empirical study and present the qualitative experience of DementiaGo's Moving Moments project from the perspective of the residents, the residents' relatives, and staff. Participants spoke of the positive impact of the project, barriers to taking part in physical activities as well as facilitators, and also highlighted issues related to the project with suggestions for improvement. Also presented in this chapter is the researcher's reflection journal where the researcher reflected on experiences during various points of the research process.

Chapter 4 is the discussion chapter that discussed the research process. This chapter presents readers with challenges faced during the research process, the researcher's personal reflections at various time points during the research process, details regarding the evolving nature of the Moving Moments projects, as well as strengths and weaknesses related to the study.

Dissemination of thesis

The author is aiming to present the results at national conferences and share findings with Gwynedd Council's residential homes via a summarised report.

Contribution of others to the thesis

Contributions to the thesis have come from two of my academic supervisors, Professor Gill Windle and Dr Katherine Algar-Skaife, throughout the whole process from supporting with the designing of the study, supporting with ethics submission to supporting the final write up. Ms Maria Caulfield also aided with Chapter 2 of the thesis, having reviewed identified papers from the literature search against the inclusion criteria.

Chapter 2: Physical activity interventions for people living with dementia- A review of systematic reviews.

Having outlined the overarching research aims and objectives, and situated this study within its relevant research paradigms, the first stage of understanding the impact of physical activity on people living with dementia requires an exploration and appraisal of the relevant published literature.

The purpose and process of a literature review

A literature review is conducted to gain an understanding of the existing literature and debate relevant to a topic, helping us determine what is known on the topic and how well this knowledge is established (University of Melbourne, 2013). Conducting a literature review enables researchers to identify the areas of a topic that have not yet been researched in detail, and thus attempt to fill the gap in the research. Moreover, conducting a literature review is beneficial for students as it is a means of informing students of the influential research in the field (Randolph, 2009).

The content of a literature review includes a critical review of one or more pieces of literature (Western Sydney University Library, 2017), usually consisting of an introduction, body, and conclusion. The scope of the literature search may be narrowed in response to a research question and focus of the review. When evaluating the sources from the literature search, researchers compare and contrast each source to other relevant literature on the topic, critically evaluate each source, indicate how each source contributes to the knowledge about the topic, and integrate the discussion of the sources into the argument about the state of knowledge on the topic (Western Sydney University Library, 2017).

Systematic and other types of reviews

There are a number of different methodological approaches for synthesising healthcare research. These include systematic reviews, rapid evidence assessments, scoping reviews, integrative reviews, realist reviews, narrative reviews, and a review of reviews (Noble & Smith, 2018). A systematic review is believed to be the 'gold standard' of reviews as the review is based on explicit, pre-specified and reproducible methods (Centre for Reviews and Dissemination, 2009).

Systematic reviews evaluate and summarise the findings of all relevant individual studies, and often combines the results of the individual studies to provide more reliable results. The steps of conducting a systematic review include developing review questions, creating an

inclusion/exclusion criterion to select research relevant to the review question(s), decide on search terms, screening relevant papers to see whether they are eligible before reviewing the final numbers of papers. This approach of reviewing literature is much more focused and narrower than other approaches such as a scoping review.

A scoping review differs from a systematic review in that a synthesis of the literature is not usually undertaken (Centre for Reviews and Dissemination, 2009). This type of review should be extensive as possible, attempting to map the literature in a broad context; identifying the size and nature of the evidence base for a particular topic area (Centre for Reviews and Dissemination, 2009). However, a short scoping literature search is often useful before undertaking a systematic literature search as it is a great exercise to identify the size of the evidence base.

A systematic review of other evidence reviews includes undertaking a literature search in a systematic manner with clear methods, combining evidence from multiple research databases in order to summarise existing evidence (The Joanna Briggs Institute Reviewers' Manual, 2014). It is usually undertaken when there is a large number of published systematic reviews on a topic area (Bastian, Glasziou, & Chalmer, 2010), and a means of summarising all the key findings from existing systematic reviews on a topic area.

For the current study, a review of systematic reviews was conducted.

Introduction

Dementia is a common neurodegenerative disorder, estimated to affect one in six people over 80 years of age (Lakey et al., 2012). Estimates anticipate a doubling in the number of people with a dementia in the next generation (Alzheimer's Disease International, 2009). Symptoms of dementia include cognitive impairment, behavioural disturbance and progressive physical decline; impairing postural control and gait ability (Allan, Ballard, Burn & Kenny, 2005). This results in reduced independence in activities (Blaum, Ofstedal & Liang, 2002), and eventually the need for long-term care. It is anticipated that 38.7% of people with dementia live in a care home, either in residential care or a nursing home (Alzheimer's Society, 2014; Alzheimer's Society, 2013).

As the dementia disease progresses, rigidity and functional limitation may further impair the ability of the person to manage activities of daily living, further contributing to a loss of independence and increased frustration. Once residing in long-term care, the person living with dementia becomes more dependent on care staff to help with simple of tasks such as getting dressed. As previously mentioned in Chapter 1, dementia is associated with a lower quality of life of residents with dementia in nursing homes (Wetzels et al., 2010). A possible contributor to the decreased quality of life is that residents live a more sedentary lifestyle in a residential home. As there is no cure for dementia, it is therefore a necessity to promote well-being and quality of life to improve the lives of residents living with the condition. It is increasingly important to ensure that residents (with and without dementia) are able to live as good as a life as possible.

However, studies have found that residents are excessively unoccupied 65% of the time, doing nothing (Harper-Ice, 2002). This suggests that residents are not living as good as a life as possible. It is believed that residents can spend 17 hours a day in bed (Baters-Jensen et al., 2004), even when awake or not receiving primary care. This therefore highlights the need to increase physical activity and break sedentary periods in the residential homes. There is increasing evidence that non-pharmacological interventions, such as physical activity, may be equally effective (Olazarán et al., 2010) as medication in delaying the progression of dementia, as well as improving symptoms such as memory and the ability to carry out activities of daily living (Qaseem et al., 2008).

Therefore, the purpose of this literature review was to combine and describe reviews investigating physical activity/exercise interventions for people living with dementia, providing a clear summary of the evidence in this field of research. The following research question was developed, with the purpose of asking: 'Do physical activity and exercise intervention increase physical activity and improve quality of life in residential home residents living with dementia?'

Method

Scoping and searching the literature

The Preferred Reporting Items for Systematic Reviews (Moher et al., 2009) was followed as a guide to conduct the present review which was decided on prior to the study. As a first step, a scoping exercise was undertaken to identify the size of the evidence base, develop familiarity with the literature and inform the approach for evidence synthesis. The search was conducted on four

academic databases: the Cochrane Database of Systematic Reviews, PubMed, PsycINFO and CINAHL on 20/09/18, 01/10/18, 11/10/18, and 15/10/18. The search terms consisted of a combination of the following: '*dementia', 'alzheimer's', 'residential home', 'exercise', 'physical activity', 'movement', 'care home'* and *'quality of life'*. This search identified a large number of papers (1222). This scoping exercise also revealed a large number of systematic reviews already published in this field, which justifies the choice for then undertaking a systematic literature review of reviews (Bastian, Glasziou, & Chalmer, 2010).

A second systematic literature search was conducted on 18/10/18 using the same four academic databases that was used for the scoping exercise. The purpose of this systematic literature search was to identify systematic reviews and meta-analyses with physical activity interventions for people living with dementia. A combination of the following terms were used as key words for searching: *'dementia', alzheimer's', 'physical activity', 'quality of life', 'exercise', 'residential home', 'care home', 'movement'.* To narrow the search down, the following two additional terms were used: *'systematic review'* and *'meta-analysis'*. Retrieved studies were imported into RefWorks ProQuest where references were then managed.

Eligibility criteria

The inclusion criteria for studies relevant for this review were: (1) studies published between 2008-2018, (2) studies published in English, (3) studies defined as a review or a meta-analysis, (4) studies that included the use of a physical activity/exercise intervention for people living with dementia and/or mild cognitive impairment, (5) studies which had measures of physical function or measures of quality of life as outcome measures. The inclusion criteria was designed to be broad enough to capture relevant publications, but specific enough to fit the timescale for this phase of work. After excluding duplicates, the author (LR) manually searched the reference lists of included studies for further potentially relevant studies. All identified papers were reviewed against the inclusion criteria independently by two authors (LR & MC). Non-English publications were not included due to not having resources for translation and limited timeframe to complete the search. We excluded reviews relating to falls prevention and reviews that were solely focused on one specific type of exercise only e.g. Tai-chi (Tadros et al., 2013), as we believed a separate review of systematic reviews could be conducted on reviews that consisted of one specific type of physical activity only. Disagreements were resolved by discussion with academic supervisors.

Quality assessment

The quality of the included reviews was appraised by the first author using the Critical Appraisal Skills Programme (CASP) quality appraisal tool for systematic reviews (Public Health Resource Unit, 2006). This instrument provides users with an extensive amount of information on how to interpret the criteria on rigor and relevant of a research report (Public Health and Resource Unit, 2009). The author's preference of using CASP over the validated AMSTAR tool (Shea et al., 2009) was due to CASP being a more user-friendly alternative for novice researchers (Hanes, Lockwood, & Pearson, 2010), and thus more suitable for the author. The author met with academic supervisors at the outset and each independently reviewed a paper (Potter et al., 2011) and discussed/agreed the scores to ensure that the first author understood the method of appraising papers using the CASP tool.

The CASP checklist for systematic review consists of three sections: Section A; "Are the results of the trial valid?" Section B; "What are the results?" and Section C; "Will the results help locally?" The checklist consists of 10 items (see table 2), all of which can be answered with 'Yes', 'Can't tell', 'No'. Note that the first author adapted item 10 of the checklist from 'Are the benefits worth the harms and costs?' to 'Did the review consider/report whether any benefits were worth the harms and costs?". As the CASP checklist is not designed to calculate a score of quality for the reviews, the first author designed a scoring system to appraise the quality of the reviews in order to make it easier to compare and mark the quality of the included reviews. Each item answered 'Yes' was 1 point, and each item answered 'Can't tell' and 'No' received 0 points. The maximum possible scores was 10.

Results

The search revealed a total of 309 papers from academic databases and searching reference lists. Screening titles and abstracts left 19 potential papers. Full text of all potential papers was obtained and a further 13 papers were excluded as they did not meet the inclusion criteria for a variety of reasons (see Figure 2). The final number of included papers for this review was 6 [see Appendix A for reference list of included reviews]; Figure 2 shows the results of the systematic literature search. The aims and scope of the included reviews are presented in Table 1. These reviews represent a total of 9159 participants from 116 studies. Excluded reviews are listed in Appendix B, with reasons for exclusion.

Figure 2.

Flow diagram of study selection

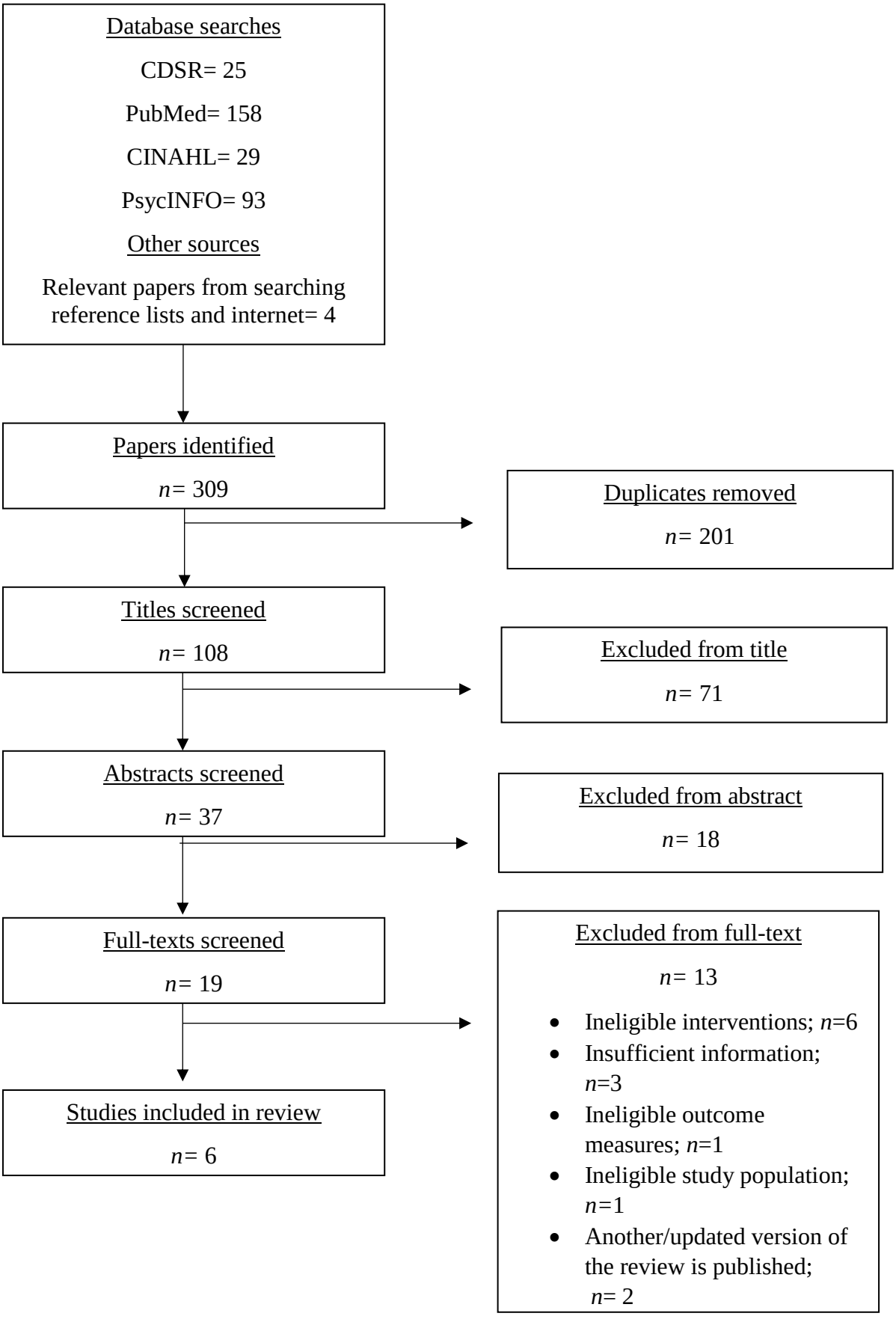


Table 1.

Summary table of the scope of the included reviews

Review Year	Main aim (participants)	Search strategy	No. of studies included	Total no. of participants
Potter et al., (2011)	To develop a synthesis of what is known about physical activity interventions for people with cognitive impairment or dementia.	8 databases. Searched reference lists. English language publications. Search terms provided.	13	896
Forbes et al., (2015)	To explore whether exercise programs for older people with dementia improves a number of outcome measures including cognition, ADLs etc.	5 databases. Searched a number of trial registers. Searched a number of grey literature sources. Search terms provided. No language restrictions.	17	1067
Brett et al., (2016)	To report the evidence of the effects of physical exercise interventions on people living with a dementia in nursing homes.	12 databases. Snowballing used to locate addition references. Search terms provided. English language publications. Searched reference lists.	12	901
Pitkälä et al., (2013)	To examine the efficacy of trials including physical activity as a major component of intervention on physical outcome measures of people with dementia.	5 databases. Search terms provided. English language publications. Searched reference lists.	20	1378
Song et al., (2018)	To evaluate the effects of exercise on cognitive and psychological outcomes for MCI patients.	6 databases. Search terms provided. English and Chinese publications. Reference lists was not searched.	11	929
Lam et al., (2018)	To explore whether physical exercise training improves physical function and QoL in people with cognitive impairment and dementia.	5 databases. Search terms provided. Searched reference lists. English language publications.	43	3988

Quality assessment of included reviews

The results of the quality assessment of the included reviews are presented in Table 2.

Table 2.

Critical appraisal results for included studies using an adapted version of the Critical Appraisal Skills Programme tool for assessing the methodological quality of systematic reviews

Items	Potter et al., (2011)	Forbes et al., (2015)	Brett et al., (2016)	Pitkälä et al., (2013)	Song et al., (2018)	Lam et al., (2018)
1. Did the review address a clearly focused question?	Yes	Yes	Yes	Yes	Yes	Yes
2. Did the authors look for the right type of papers?	Yes	Yes	Yes	Yes	Yes	Yes
3. Do you think all the important, relevant studies were included?	Yes	Yes	No	No	No	No
4. Did the review's authors do enough to assess the quality of the included studies?	Yes	Can't tell	Yes	Yes	Yes	Yes
5. If the results of the review have been combined, was it reasonable to do so?	Yes	Yes	Yes	Yes	Yes	Yes
6. What are the overall results of the review?	Yes	Yes	Yes	Yes	Yes	Yes
7. How precise are the results?	Yes	Yes	Yes	No	Yes	Yes
8. Can the results be applied to the local population?	No	No	No	Can't tell	No	Can't tell
9. Were all important outcomes considered?	Yes	No	No	No	No	Yes
10. Did the review consider/report whether any benefits were worth the harms and costs?	No	Yes	No	Yes	No	Yes
Total score (/10)	8	7	6	6	6	8

When marked against the CASP checklist, only two of the reviews (Potter al., 2011; Lam et al., 2018) scored highly, and the remaining four reviews received moderate (Forbes et al., 2015) and moderately low scores (Brett et al., 2016; Pitkälä et al., 2013; Song et al., 2018).

All of the reviews failed to score a point for item 8 of the checklist. This item asks if the results could help locally, and was rated as 'no' or 'can't tell' as two of the reviews (Pitkälä et al., 2013; Lam et al., 2018) did not report the location of the studies. Four reviews that reported the study locations were settings outside of the United Kingdom (UK); where health and social care settings are likely to differ to the UK, meaning that the results may not necessarily be easily implemented in the UK.

The scores from item 3 revealed that four of the reviews (Brett et al., 2016; Pitkälä et al., 2013; Song et al., 2018; Lam et al., 2018) could have done more to ensure that all the important, relevant studies were included in the reviews. To ensure that they didn't miss further relevant studies to include, the authors could have contacted experts in the field, searched for unpublished studies and grey literature, and include non-English language studies in their reviews also.

All but one review (Pitkälä et al., 2013) had presented the results of the review clearly and precisely. Although Pitkälä et al., (2013) included a clear table showing the results of the included studies, they failed to present any data showing any improvements in outcome measures, and did not report confidence intervals. Instead, they reported a short narrative on whether there was improvement or not on the outcome measures. Consequently it is difficult to ascertain whether their conclusions accurately reflect the data in their included studies.

The author believed that three of the reviews could have considered additional outcome measures. Pitkälä et al., (2013) could have also considered quality of life as an outcome measure. Further, although Brett et al., (2016) had considered a variety of outcome measures both physical and psychological, a measure of quality of life was unconsidered which could have potentially added further evidence on the effect of physical exercise interventions on quality of life for people living with dementia. Moreover, Song et al., (2018) could have considered some physical function measures along with the cognitive measures of the effect of physical activity interventions on people living with mild cognitive impairment.

Only three reviews (Forbes et al., 2015; Pitkälä et al., 2013; Lam et al., 2018) scored a point for item 10 due to having considered/reported whether any benefits from the studies were worth the harms and costs. Forbes et al., (2015) suggested that the benefits would be worth any potential harms or costs as none of the trials that addressed potential adverse events of exercise programs for people living with dementia reported any serious adverse events that could be attributed to the exercise intervention. Pitkälä et al., (2013) reported that in one study not a single participant fell in its exercise intervention group, but six participants fell in the control (no exercise) group; thus suggesting that exercise did not cause any harm as there were no falls reported in the intervention (exercise) group. However, another study in Pitkälä et al., (2013) revealed an increase in hospitalisations during the study. Therefore, Pitkälä et al., (2013) concluded that there are uncertainty whether benefits of exercise overcome its possible harms. The uncertainty of whether benefits of exercise overcome its possible harms was also seen in Lam et al., (2018). In this reviews, nineteen trials explicitly reported if any adverse events occurred. Ten trials reported that no adverse events occurred, four trials reported few adverse events in the intervention (exercise) group (i.e., foot pain, falls, hospitalisation) but these events were deemed unlikely to be related to the intervention by the original authors, and five trials reported adverse events (e.g. falls, shortness of breath, pain or discomfort, a higher number of hospitalisation per patient, erythema) that may be related to exercise. However, it was also reported that these events eased as time progressed or by modifying the exercise slightly.

Characteristics of included reviews

The six reviews that satisfied the inclusion criteria all consisted of physical activity interventions and considered outcome measures including physical function (Potter et al., 2011; Brett et al., 2016; Pitkälä et al., 2013; Lam et al., 2018), quality of life (Potter et al., 2011; Song et al., 2018; Lam et al., 2018), depression (Potter et al., 2011; Forbes et al., 2015; Brett et al., 2016; Song et al., 2018), cognition (Forbes et al., 2015; Brett et al., 2016; Song et al., 2018) and activities of daily living (Forbes et al., 2015; Brett et al., 2016; Lam et al., 2018). The exercises included in the reviews focused on aerobic, strength, balance, multi-modal, flexibility etc. included aerobic, walking, endurance, multimodal, dance and movement, balance, strength, flexibility, tai-chi, dual-tasking, resistance training etc. A summary of the main findings are presented in Table 3.

Exercise interventions included in the review

As demonstrated above and presented in Table 3, the reviews included studies that covered a multitude of exercises. The reader should be made aware that the variety of exercises are similar to the types of exercises included in Moving Moments. Staff are encouraged to promote any type of physical activity; including activities of daily living such as encouraging residents to do as much as they can in regards to dressing or washing themselves and helping to clean the dishes and so on, chair aerobics to music, playing games such as Boccia and bat and ball, walking the corridors, joints mobilisation and so on. By performing these types of physical activities, the residents are exercising their strength and balance, their aerobic capacity, co-ordination and so on. Therefore, there are no set exercises to be performed – each home may perform different exercises by taking into consideration the staff's confidence in leading the activities and also the residents' personal choice of activities; promoting person-centred care. However, it should be noted that one popular activity in the homes is Boccia- which was not stated in any of the interventions in the reviews. Moreover, it is also worth noting that most physical activities performed in Moving Moments are delivered by the care staff and not external instructors such as physiotherapists.

Table 3.

Summary of included reviews

Review	Sample	Stage of impairment/ Level of cognition	Setting	Types of exercises included in interventions	Frequency, length of session, duration	Outcome measures	Who delivered the interventions?	Summary of findings
Potter et al., (2011) Systematic review and meta-analysis	Older people living with dementia or cognitive impairment. Mean age ranged from 73-89 years old	Stage of impairment ranged from mild to severe dementia	Mixed setting (long term care, home, community)	Strength Balance Walking Endurance Flexibility Tai-chi Stretching Aerobic Seated exercise class	Frequency= ranged from twice a week to everyday Length of sessions= 30-75 minutes Duration= 12-40 weeks	Depression Health-related quality of life Physical function Balance	Students, qualified health professionals, exercise scientists, activity teachers, research assistants	There was some evidence that physical activity interventions improve physical function in older people with dementia. Limited evidence for an effect on depression and quality of life.
Forbes et al., (2015) Systematic review and meta-analysis	Older people living with dementia. Mean age ranged from 73-85 years old	Stage of impairment ranged from mild to severe dementia	Mixed setting (long term care, home, community)	Combinations of aerobic-, strength-, or balance- training. (E.g. seated exercise, walking, strength, balance, agility, aerobic endurance, joint mobility, co-ordination such as catching and throwing balls, dance, hand movements, resistance etc.)	Frequency= ranged from daily to 5 days a week Length of session= ranged from 20 minutes up to 60 minutes Duration= ranged from 2 weeks up to 18 months	*Primary:* cognition, activities of daily living (ADL), behaviour, psychological symptoms (depression, anxiety, agitation) *Secondary:* caregivers' QoL and mortality	Not reported	There was some evidence that exercise programs can improve the abilities of people with dementia to perform ADL; but there was a lot of variation among trial results that could not be explained. There was no evidence of benefit from exercise on cognition and psychological symptoms. Limited or no evidence regarding the other outcome measures.

Table 3.

Continued

Review	Sample	Stage of impairment/ Level of cognition	Setting	Types of exercises included in interventions	Frequency, length of session, duration	Outcome measures	Who delivered the interventions?	Summary of findings
Brett et al., (2016) Systematic review and meta-analysis	People living with dementia Mean age= 82.6 years old	Stage of impairment ranged from mild to severe dementia.	Nursing homes	Multimodal *(including the combinations of physical exercises targeting strength, balance, flexibility, aerobic capacity, cognition, functional ability and/or coordination)* Walking Music and movement Hand exercises.	Mean frequency= 4.5 sessions per week Mean length of session= 49.3 minutes Duration= ranged from 4 weeks up to 52 weeks	Cognitive function Mood and depression Functional ability Mobility Communication Unmet needs	Nurse, caregiver trained by physiotherapist, occupational therapist, physical education professional, research assistants (health professionals), psychology students.	There was evidence from most studies that physical exercise had significant positive effects on cognition, agitation, mood, mobility and functional ability for people living with dementia in nursing homes.
Pitkälä et al., (2013) Systematic review	People living with dementia Age= 73-87 years old	Mostly mild to moderate dementia, some included severe dementia	Mixed-setting (Long-term care, community)	Aerobic Strength Balance Dual-tasking training *(walking and talking)* Tai-chi Physiotherapy Occupational therapy Walking Dancing Practice of ADL	Frequency= ranged from daily to twice per week Length of session= ranged from 30 minutes to 2.5 hours Duration= ranged from 2 weeks up to 12 months	Physical function Mobility Related functional limitations	Interventions were delivered with and without professional supervisors, occupational therapists, physiotherapists.	Studies showed consistent evidence that intensive physical rehabilitation enhances mobility, and may also improve physical function when administered over a long period.

Table 3.

Continued

Review	Sample	Stage of impairment/ Level of cognition	Setting	Types of exercises included in interventions	Frequency, length of session, duration	Outcome measures	Who delivered the interventions?	Summary of findings
Song et al., (2018) Systematic review and meta-analysis	Individuals with mild cognitive impairment Age= 50-94 years old	Mild cognitive impairment	Mixed setting (community, nursing homes)	Walking Aerobic exercise Resistance training Multi-modal (*including aerobic, strength training, balance training, dual-task training, tai-chi)*	Frequency= One to four sessions per week Length of session= ranged from 30minutes to 75 minutes. Duration= ranged from 12 weeks up to 12 months.	*Primary:* Global cognition *Secondary:* Domain-specific cognition, depression, health-related QoL	Some interventions were supervised (not clear by who) and some interventions were independent (unsupervised).	Physical exercise, aerobic exercise in particular, benefits global cognition in individuals with mild cognitive impairment. Unclear evidence regarding the benefit of physical exercise on domain-specific cognitive function and psychological outcomes.
Lam et al., (2018) Systematic review and meta-analysis	Individuals with mild cognitive impairment or dementia Age= not stated but refers to 'older people'	Mild cognitive impairment Mild dementia Moderate dementia Severe dementia	Mixed setting (residential care, community, hospital respite care)	Aerobic Walking Dual-task walking Multi-modal ADL/functional training Strengthening exercise And others.	Frequency= ranged from once a week to daily. Length of session= ranged from less than 30 minutes up to 150 minutes. Duration= Ranged from single session to 8 weeks to more than 12 months.	Strength Flexibility Gait Balance Mobility Walking endurance Dual-task ability Activities of daily living Quality of life Falls	Caregiver Research staff Therapists Certified exercise instructors Independent	The meta-analyses revealed strong evidence in support of using supervised exercise training to improve the results of many physical function tests in individuals with mild cognitive impairment or dementia. Weak evidence supported the benefit of exercise for improving flexibility, and suggested that non-specific exercise does not improve dual-task ability or activity level. Strong evidence indicated that exercise did not improve QoL for people with mild cognitive impairment or dementia. Supervised multi-modal exercise for about 60 minutes a day, 2 to 3 days a week can improve physical function in people with various levels of cognitive impairment.

Physical outcome measures (4 reviews)

All four reviews (Potter et al., 2011; Brett et al., 2016; Pitkälä et al., 2013; Lam et al., 2018) that considered any type of physical function (such as strength, flexibility, gait, walking endurance etc.) as an outcome measure, a total of 88 studies between them all, found some evidence of improvement in physical function following a physical activity intervention.

Potter et al., (2011) showed that regular physical activity interventions can have some physical benefits for older people with dementia. Group sessions were most common in the studies with sessions ranging from 30-75 minutes, 2/week-daily, for a duration of 12 weeks- 12 months; majority ranging from 12 to 16 weeks. This review showed that a variety of exercise modalities can be implemented, including strength, aerobic, flexibility and balance activities, and older people will regularly attend sessions. The review suggests, from some evidence, that the most effective interventions include higher intensity interventions including lower limb strengthening.

Brett et al., (2016) included seven studies that assessed the effect of a physical activity intervention on mobility, balance and/or functional ability. All of the seven studies used a walking and/or multimodal intervention which targeted the people living with dementia in nursing homes' gait, strength and flexibility that lasted at least 15 weeks. Six out of the seven studies found improvement in the physical outcome measures of the intervention groups. One study that evaluated mobility used the six meter walk test and showed significant improvement in the efficiency in walking in the multimodal group over time. The intervention group's walking speed improved 0.08m/s after six months compared to only 0.04m/s after six months in the control group. Another study using a six months walking intervention (walking up and down a 60 metre long hallway for 30 minutes, 4 times per week) found a significant difference of 134 metres between the walking group and the control group following the walking intervention.

Similar to Potter et al., (2011), Pitkälä et al., (2013) reported the importance of sufficient intensity of physical activity needed for improvement to occur in physical outcome measures of people living with dementia. This review showed consistent moderate grade evidence that intensive physical activity, at least twice per week, enhances some dimensions of mobility and functional limitations of people living with dementia. Eight of the nine studies that were considered to be of moderately high to high methodological quality show that physical exercise improves the functional limitations, mobility and/or physical functioning of older people living with dementia. However, the review showed only low grade evidence that intense and long-duration (at least three months)

exercise training can enhance physical functioning of people living with dementia. Although this review reported improvements in functional limitations, mobility and/or physical functioning in older people living with dementia following physical exercise, is important to note that as there are no figures/values for effect sizes etc. therefore, it is hard to know how much the measures improved and how large the effect size were.

Lam et al., (2018) showed further support for the use of physical activity interventions in improving physical function. Although results showed weak evidence in support of the benefit of physical activity for improving flexibility, supervised multi-modal exercise for around 60 minutes per day, two to three times per week, can improve physical function in people with various levels of cognitive impairment. Furthermore, the meta-analyses conducted in this review revealed strong evidence that the results of physical function tests in individuals with mild cognitive impairment or dementia can be improved by supervised exercise training. Meta-analysis on eleven trials (606 participants) revealed that exercise significantly reduced the time required to complete the Timed Up and Go test by 1 second (95% CI -2 to 0). Most of these trials consisted of 15-120 minutes of multi-modal exercise per day, at twice per week for a minimum of 12 weeks. Meta-analysis on seven trials (402 participants) also revealed the benefit of exercise in increasing the distance covered in the 6-minute walk test by 50m (95% CI 18 to 81). Moreover, meta-analysis on four trials (385 participants) also showed a marginally significant improvement in walking speed of individuals with moderate-to-severe-grade dementia following exercise, with a mean difference of 0.14 m/s (95% CI -.01 to 0.29). However, meta-analysis on three trials (183 participants) revealed that there was no significant improvement (p=0.19) in walking speed of individuals with mild cognitive impairment and mild-grade dementia. Lam et al., (2018) also revealed that various types of physical activity interventions, including multi-modal exercise, resistance training and Tai Chi, was effective in improving balance. Primary analyses revealed that exercise significantly improved scores of the Berg Balance scale by 3.6 points (95% CI 0.3 to 7.0), and also significantly improved reaching distance by 3.9cm on the functional reach test (95% CI 2.2 to 5.5).

Quality of life (3 reviews)

Three reviews (Potter et al., 2011; Song et al., 2018; Lam et al., 2018) assessed quality of life (QOL) or health-related quality of life (HRQOL) as an outcome measure. All three reviews failed to report any strong evidence in support of physical activity interventions in improving the quality of life of people living with dementia. Potter et al., (2011) included only two studies that reported HRQOL as an outcome measure and both trials found some evidence of improvement in HRQOL

of people living with dementia. One of the trials used the physical role function subscale of the SF-36 (Stewart, Hays, & Ware, 1988) to measure HRQOL, and at three months an intention to treat analysis revealed that the intervention participants had improved by 5.9 points, and the control participants had decline of 16.6 points. However, there is no information about the significance of the result and there are little information regarding the interventions to improve HRQOL and combining the results of both studies do not provide strong evidence for an improvement in QOL.

Similarly, Song et al., (2018) included two studies that assessed HRQOL and narrative analysis indicated the unclear effects of physical activity on HRQOL of people with mild cognitive impairment. One study used both disease-specific (Dementia Quality of Life questionnaire) and generic HRQOL (Short Form 12) as measures, but neither revealed a significant difference although secondary analysis revealed a significant positive association between attendance of sessions and improvement in disease-specific HRQOL. The other study only used the Short Form-36 measure, and revealed no significant changes in HRQOL of people with mild cognitive impairment following physical activity interventions.

In contrast to the other previous two reviews, Lam et al., (2018) was more confident about the evidence regarding the effect of physical activity on HRQOL of people living with dementia or mild cognitive impairment. In this review, eight trials measured quality of life and a multimodal exercise intervention was used in six of the trials. The multimodal exercise intervention consisted of 40-60 minutes session, at least twice a week for a duration of 12 weeks to 6 months. None of the six trials reported significant results. The other two trials that measures QOL used a walking intervention; one of these trials adopted moderate-intensity walking exercise (60 minutes per day, twice a week for one year) and reported an improved satisfaction in daily life in the intervention group, but no significant improvement in quality of life. In contrast, the other trial administered a 90 minute walking exercise once a week for three months, and the participants were also encouraged to organise walking events with each other and walk daily. This trials reported significant improvement in QOL, but the review lacks information regarding the significance value of the improvement and how the improvement was measured. Therefore, Lam et al., (2018) provided strong evidence indicated that exercise did not improve quality of life of people with dementia or mild cognitive impairment.

Depression (4 reviews)

Depression was reported in four reviews (Potter et al., 2011; Forbes et al., 2015; Song et al., 2018; Brett et al., 2016). Of the four trials that measured depression or depressive symptoms in Potter et al., (2011), only one showed that physical activity lowered depression, in only one of the two measures used to measure depression. This trial included both exercise and behavioural management with 24 month follow up and used the Hamilton depression rating scale (Hamilton, 1986) and the Cornell Scale for depression in dementia (Alexopoulos et al., 1988). Results revealed no significant difference at 24 months in the Hamilton depression rating scale, but a significantly lower (better) score on the Cornell scale for depression in dementia was revealed. However, this finding was only reported for those participants who completed the assessment at 24 months, accounting for only 58% of the participants. Potter et al., (2011) concluded that there was not enough evidence to determine an effect of physical activity interventions on depression or depressive symptoms.

In Forbes et al., (2015) six trials measured depression using the Montgomery-Asberg Depression Rating Scale (Montgomery & Asberg, 1979), the Cornell Scale for Depression in Dementia (Alexopoulos et al., 1988) or the Geriatric Depression Scale (Yesavage et al., 1982) where higher scores indicated greater depression. One of the studies did not report the data needed for the analysis, and thus 5 studies (341 participants) were included in the meta-analysis. Results from meta-analysis revealed no clear evidence of benefit from exercise on depression (SMD 0.14, 95% CI -0.07 to 0.36; 5 trials, 341 participants;
P value 0.16).

Similar to Potter et al., (2011) and Forbes et al., (2015), narrative analysis indicated unclear effects of physical exercise on depression in Song et al., (2018) as only two trials in this review reported the effect of physical activity on depression. One of the studies failed to report any significant effect of a six-month home-based walking programme on depression, compared with the educational control intervention. However, this result could be unrepresentative of a true effect of physical activity and depression, due to individuals with a Geriatric Depression Scale-15 score of 6 or higher being excluded at enrolment. In contrast, the study that measured depression reported a significant decrease in depressive symptoms following a 12 month group-based multimodal exercise programme compared with the pre-test level. Yet again, this result may not truly be reliable as the adoption of social recreational activities in the control group might have led to no significant between-group differences. Therefore, the evidence regarding the effect of physical

activity on depression remains unclear in this review and should be considered with caution.

In contrast to the previous three reviews, Brett et al., (2016) combined mood and depression and revealed that both improved significantly following physical exercise interventions. Mood and depression was evaluated in four trials using a variety of outcome measures including Alzheimer's Mood Scale (Tappen & Williams, 1999), Dementia Mood Assessment Scale (Sunderland et al., 1988), Cornell Scale for Depression in Dementia (Alexopoulos et al., 1988) and the Observed Affect Scale (Lawton, Van Haitsma, & Klapper, 1996). The review found that physical exercise improved mood and depression and agitation more than other outcome measures as 75% or more of the studies had at least one positive effect in at least one of the outcome measures (mood, depression, agitation).

Cognition (3 reviews)

Three reviews (Forbes et al., 2015; Brett et al., 2016; Song et al., 2018) reported the effect of physical activity on cognition. Twelve studies measured cognitive function in Forbes et al., (2015) by using a variety of measures including; Mini Mental State Examination test (Folstein, Folstein, & McHugh, 1975), Cognitive Memory Performance Scale (Morris et al., 1994), Rapid Evaluation of Condition Functions test (Gil et al., 1986), Clock Drawing Test (Shulman, Pushkar Gold, Cohen, & Zucchero, 1993) etc. For all of the measures, higher scores indicated less cognitive impairment. However, only nine of the twelve studies (409 participants) provided data and was included in the meta-analysis. Results from the meta-analysis revealed no evidence of benefit from exercise on cognitive functioning. The estimated standardized mean difference between exercise and control groups was 0.43 (95% CI -0.05 to 0.92, P value 0.08; 9 studies, 409 participants). The authors reported that there was a very substantial heterogeneity in the analysis (I^2 value 80%), most of which they were unable to explain, and thus rated the quality of this evidence as very low.

From the seven studies that measured cognition in Brett et al., (2016), the Mini Mental State Examination Test (MMSE) was the most commonly used measure. This review found that physical exercise improved cognition significantly; five studies out of seven found significant changes (*p* value 0.05) in cognition. In one study that used a music and movement group, the MMSE score increased significantly from 12.9 (5) to 15.5 (4.4.), and was 2.7 greater than the control group at the end of the study; representing a medium effect size of 0.5. The other studies that found significant changes in cognition used multimodal physical exercise interventions, whereas the studies that

showed so significant changes involved walking or hand exercises. However, the authors reported that the results from the studies should be considered with caution as only four of the seven trials that showed significant changes in cognition were high quality studies, therefore there could be a risk that bias was introduced, along with other common limitations including a small sample size and short duration which could have influenced the results.

Song et al., (2018) included seven studies that examined the effects of physical exercise on global cognition. The review revealed unclear evidence regarding the benefit of physical exercise on domain-specific cognitive function in individuals with mild cognitive impairment. However, the review revealed that physical exercise improved global cognition in individuals with mild cognitive impairment. The pooled effect size showed significant differences between the intervention group and the control group in global cognition [Standardised Mean Difference (SMD) =0.30, 95% CI (0.10, 0.49), p=0.002; ^{I2}=20%, X^2=8.70, p=0.28]. One of the two studies that reported the effects of aerobic exercise on global cognition was a six month moderate-intensity walking programme; 50 minutes a session, three sessions per week, compared to a health education control group. The effect size of this study was medium with SMD of 0.58 (95% CI 0.18 to 0.98). Three studies analysed reported the effects of resistance training on global cognition and pooling analysis demonstrated a small to moderate effect on improving global cognition [SMD=0.41, 95% CI (0.01, 0.80), p=0.04; I^2=0%, X^2=0.70, p=0.70]. However, there was no significant difference observed in global cognition in the two studies that consisted of multimodal exercise programmes. This review therefore demonstrated that aerobic exercise and resistance training benefits the global cognition of individuals with mild cognitive impairment.

Activities of daily living (3 reviews)

Three reviews (Forbes et al., 2015; Brett et al., 2016; Lam et al., 2018) measured the effect of physical activity interventions on individuals with dementia or mild cognitive impairments abilities' to perform activities of daily living (ADLs). Forbes et al., (2015) included six studies (289 participants) that assessed the effect of exercise programs on the ability of people with dementia to perform ADLs by using measures including the Barthel ADL index (Mahoney & Barthel, 1965), Katz Index of ADLs (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963), and Changes in Advanced Dementia Scale (McCracken, Gilster, Connerton, Canfield, & Painter-Romanello, 1993). Higher scores in all measures indicated greater ability to perform ADLs. The duration of the exercise interventions ranged from 7 to 52 weeks. A random effect model was used due to

clinical and methodological diversity among studies. Meta-analysis yielded an estimated standardized mean difference between exercise and control group of 0.68 favouring the intervention group (95% CI 0.08 to 1.27, $p<0.03$). However, considerable unexplained heterogeneity was observed (I^2 value 77%) in the meta-analysis; thus rating the quality of the evidence as very low. The authors therefore reported that the findings of the review should be interpreted with caution.

Five studies in Brett et al., (2016) included outcome measures that considered ability of people living with dementia in nursing homes to complete ADLs. By looking at the studies individually, a number of the studies demonstrated significant improvements in functional ability. Two of the studies showed an improvement in the Barthel Index (BI) scores in the intervention groups which were multimodal an walking interventions, although the improvement was only significant in the walking intervention. The walking intervention (walking up and down a 60 m long hallway for 30 minutes, four times per week for a duration of 24 weeks) showed an improvement in the BI score from 34 (4) to 42 (4) which was significantly better than the control group from 35 (6) to 32 (6). Another study using the Acute Care Index Function measure found a significant improvement in the ability to transfer from one surface to another in the multimodal intervention group, while both the walking and control group declined. However, it was not possible to complete a meta-analysis due to high variability between the studies; such as type of physical exercise, parameters used and outcome measures of abilities to perform ADLs. Furthermore, information about the functional ability of participants was limited in all studies, and therefore the authors were unable to determine which level of function benefited the most from a physical exercise intervention.

Twenty-two trials assessed the effect of physical activity intervention on ADL performance of people with cognitive impairment and dementia in Lam et al., (2018). Significant benefits of exercise in at least one outcome measure of ADL was reported in sixteen of the twenty-two trials. The physical activity interventions that were found to improve ADL performance varied widely, including ADL training, multimodal exercise and aerobic exercise for 20-150 minutes per session, at least twice per week for a duration of 12 weeks to 15 months. A meta-analysis of four trials (237 participants) revealed that exercise improved the Barthel Index significantly by 10 points (95% CI 3 to 16). However, publication bias was noted for the meta-analysis. Moreover, sensitivity analyses of trials of high methodological quality (three trials, 221 participants) or trials conducted in institutionalised settings (three trials, 197 participants) also yielded results in favour of exercise for improving ADL performance. However, the heterogeneity was high across trials in all analyses ($I^2 \geq 72\%$) and therefore findings should be interpreted with caution.

Discussion

This synthesis of systematic reviews describes the evidence on physical activity interventions for older people with any stage of dementia or mild cognitive impairment in mixed settings (community, residential/nursing homes and hospital settings). The evidence from the six reviews evaluating 116 studies (9159 participants) of physical activity interventions suggests that physical activity interventions generally demonstrated a positive effect on a variety of physical and psychological outcome measures. However, the reviews seem to suggest that physical activity interventions have stronger effects on physical function outcomes than psychological outcome measures.

Evidence for the benefit of physical activity interventions on physical function/physical outcome measures was promising as all four reviews, 88 studies in total, which looked at the impact (Potter et al., 2011; Brett et al., 2016; Pitkälä et al., 2013; Lam et al., 2018) found some evidence of improvement in a type of physical function outcome measure (mobility, flexibility, balance, strength etc.). Potter et al., (2011) suggested that the most effective intervention included higher intensity interventions including lower limb strengthening. Pitkälä et al., (2013) agreed with Potter et al., (2011) in that to benefit from physical activity, interventions should be of sufficient intensity in order for improvement to occur in some dimensions of mobility and functional limitations of people living with dementia. However, there is no clear information regarding how much is sufficient intensity. Moreover, a low grade evidence was reported by Pitkälä et al., (2013) that physical functioning of people living with dementia could be enhanced if the duration of a sufficient intensity of exercise training is at least three months. Lam et al., (2018) also supported this as the review found that interventions that consisted 60 minutes of supervised multi-modal exercise per day, two to three times per week for a minimum of 3 months can improve physical function in people with various levels of cognitive impairment.

An aim of this review was to examine the effect that physical activity interventions had on the quality of life of people living with dementia. Unfortunately, out of a possible total of 116 studies included in the six reviews, only 12 studies considered quality of life as an outcome measure. The three reviews (Potter et al., 2011; Song et al., 2018; Lam et al., 2018) that assessed quality of life/health-related quality of life as an outcome measure failed to report any strong evidence in support of physical activity interventions in improving QoL of people living with dementia, although some non-significant evidence were found in some studies. Moreover, one study (Lam et

al., 2018) which included 6 studies that measured QoL, reported evidence that indicated that exercise did not improve quality of life of people with dementia or mild cognitive impairment. However, although no significant benefits of exercise was revealed in Song et al., (2018), interestingly, one study's secondary analysis revealed a significant positive association between attendance of exercise sessions and improvement in HRQOL. It is important not to make the assumption that physical activity interventions do not improve QoL based on the result from one review, as only 12 trials from a total of 116 trials in this review of systematic reviews measured quality of life and thus this does not provide a representative result. The low number of reviews that measures quality of life highlights a potential gap in the literature; more studies are needed to measure the effects of physical activity interventions on quality of life of people living with dementia.

The evidence of the benefit of physical activity interventions on depression was unclear. Neither Potter et al., (2011), Forbes et al., (2015) or Song et al., (2018) reported clear evidence of benefit from exercise on depression or depressive symptoms. However, Brett et al., (2016) in contrast to the other reviews, found that physical exercise significantly improved mood and decreased depression more than the other outcomes that were measured. The evidence regarding the benefit of exercise for improving depression is therefore scarce, and in this review, a total of eight studies only, measured depression. This highlights a gap in research which is a lack of studies including depression as an outcome measures following a physical activity intervention.

Similarly, the three reviews (Forbes et al., 2015; Brett et al., (2016); Song et al., (2018) that measured cognition also reported unclear evidence regarding the benefit of physical activity interventions on cognition of people living with dementia or mild cognitive impairment. Results from Forbes et al., (2015)'s meta-analysis that included nine studies revealed no evidence of benefit from exercise on cognitive functioning. However, as the authors mentioned, due to a very substantial heterogeneity in the analysis that most of which they were unable to explain, readers should interpret the results with caution. In contrast, Brett et al., (2016) revealed that the seven studies that measured cognition in the review found that physical exercise improved cognition significantly. Furthermore, Song et al., (2018) revealed an improvement in global cognition of individuals with mild cognitive impairment following aerobic exercise and resistance training. However although both reviews supported the use of physical activity interventions for improving cognition, the evidence is regarded in this review of reviews as unclear as there is insufficient

evidence in support without substantial heterogeneity.

The benefit of physical activity interventions on individuals living with dementia or mild cognitive impairment's abilities to perform daily activities was evident in the reviews that measured ADL (Forbes et al., (2015); Brett et al., (2016); Lam et al., (2018)). However, some uncertainties regarding the evidence was also revealed due to reasons such as considerable unexplained heterogeneity observed in meta-analyses, limited information regarding the functional abilities of participants and publication bias. Therefore, it is important to note that the findings of this review should be interpreted with caution and the level of function that benefited the most from a physical exercise intervention is unclear.

Implication for future research

Conducting this review of systematic reviews has highlighted some gaps in the research in this field on physical activity and older people living with dementia. One of the gaps is the lack of studies measuring the effect of physical activity intervention on quality of life of people living with dementia. As previously discussed, there were only 12 studies out of a possible 116 studies that considered quality of life. Brett et al., (2016), Pitkälä et al., (2013) and Forbes et al., (2015) didn't mention any effects of physical activity on quality of life in their reviews. As there are no curative treatment for dementia to date, it is important to promote QoL and well-being to improve the lives of people living with dementia (Algar, Woods, & Windle, 2016). If QoL is not being explored or measured, then dementia care facilities do not have the evidence to indicate that physical activity may promote the QoL and well-being of their residents.

However, it could be a possibility that studies don't consider the quality of life of people living with dementia as a good outcome measure in relation to their interventions. Also there are a number of different QoL measures for people living with dementia, and there may be an absence of a recognised 'gold standard' optimal measure of QoL. Nevertheless, a European consensus on outcome measures for research in dementia care indicate the Quality of Life in Alzheimer's Disease (QoL-AD) is the measure of choice (Moniz-Cook et al., 2008). This review found one of the trials in Potter et al., (2011)'s review used the physical role function subscale of the SF-36 (Stewart, Hays, & Ware, 1988) to measure HRQoL. The physical role scale of SF-36 is determined by questions about time required to complete tasks, difficulties in completing tasks, and ability to accomplish things. Given the type of questions covered in this sub-scale, this measure would be

more appropriate in measuring activities of daily living/physical function and HRQoL, and therefore it could be possible that this measure would not provide an accurate reflection of the effect of the intervention on the broader quality of life of people living with dementia. Moreover, a limitation to this measure is that it has a low response rate in people over 65 years old (Andersen, Gravitt, Aydelotte, & Podgorski, 1999) which was the target population of this review. It may be suggested that the quantitative measures that would provide good reflection of the QoL of people living with dementia, especially in the later stages, would be to use observational measures rather than self-report questionnaires and proxy-ratings. A review of observational measures by Algar, Woods and Windle (2014) supports this suggestion.

Another gap that was highlighted during the conduction of this review was that there are no systematic reviews (found during the systematic literature search for this review) that research the effects of physical activity interventions on people living with dementia conducted in the UK. This means that the results found from the systematic reviews in this review cannot be applied to the local population here in the UK and thus highlights the need for research in this field to be conducted in the UK.

Strengths and limitations

A strength to this review is that it has identified a scope of existing literature as well as identifying gaps in the existing literature by a sole author. To ensure quality control, each process of conducting the review of systematic reviews has been discussed and verified with an academic team. Moreover, to ensure that the correct reviews were excluded and included in the review, a second reviewer checked each review. The findings of the current review offers a number of recommendations for future work, as well as practical implications in the field of physical activity and dementia.

There are a number of limitations to this review of systematic reviews. To begin, synthesising evidence from heterogeneous systematic reviews evaluating a variety of different physical interventions is challenging. Furthermore, not all reviews provided statistical information of the included studies (for example Pitkälä et al., 2013) and therefore it was unclear as to how significant any improvements in outcome measures were. Moreover, only four of the six reviews managed to conduct any meta-analyses due to high variability between the individual studies in terms of type of

exercise included in the intervention and duration etc.

Secondly, due to the limited timeframe for this review to be completed, the author had to make a pragmatic choice regarding the method of systematically searching for literature within the given timeframe. This meant that only four electronic databases were used to search for systematic reviews, non-published articles were not search for and experts in the field were not contacted. Moreover, this review was restricted to English language publications only, due to the limited timeframe and having no source of translation. Therefore it is possible the author has missed other potentially relevant material and thus some reviews may not have been found to be included in this review.

Another potential limitation to this review is that the authors excluded reviews that were purely focused on one type of exercise interventions, such as Tadros et al., (2013) which only included Tai-chi and some meditation interventions in its review. Although Tai-chi can be categorised as a physical activity intervention, the authors did not believe that Tadros et al., (2013)'s review compared with the other reviews that included more general physical interventions, and believed that a separate review of systematic reviews could be conducted on Tai-chi interventions only. However, including reviews that included one type of exercise interventions only could have potentially offered further evidence regarding the effect of physical activity on a variety of outcome measures.

A potential limitation to this review can also be that apart from one review (Potter et al., 2011), the quality of the included studies in this review was only assessed by the first author. It is possible that quality appraisals conducted by more than one reviewer would have strengthened the reliability of the appraisals, which would also improve the quality of this present review of systematic reviews.

Lastly, a potential limitation to this review is that all of the included reviews focused on randomised controlled trials only, which have very strict protocols and can therefore result in limited outcome measures. These strict conditions potentially prevents the reviews from reporting conclusions as strong as they could be if the trials also included qualitative measures/data to measure outcomes which could then capture more reflective results and strengthen conclusions. For example, including participants' reports following interventions and/or interviews would

possibly capture a more accurate reflection of the effect of an intervention on some outcome measures such as quality of life.

Practical recommendations

Although this review cannot conclude a gold standard physical activity intervention that can enhance and improve all outcome measures for people with any stage of dementia or mild cognitive impairment, it is possible to offer some practical recommendations from some individual studies.

To improve mobility and increase the possibility of improving physical function of older people living with dementia of any stage, evidence from this review, including Potter et al., (2011) and Pitkälä et al., (2013), suggests the use of physical activity interventions of higher intensity, two to three times per week for a minimum duration of three months.

To improve cognition through physical interventions, interventions should include multimodal physical exercises or music and movements (Brett et al., 2016). These types of interventions improved the cognition of people living with dementia in this study, whereas walking or hand exercises interventions did not. For individuals with mild cognitive impairment, physical exercise interventions (aerobic exercise in particular) has been found to improve their global cognition (Song et al., 2018).

Conclusion

Due to high variability between the studies including the type of physical exercise (walking, strength, multimodal, resistance, dance, hand exercises and flexibility etc.), the method of measuring outcomes, the frequency of sessions and duration of interventions etc., conducting meta-analyses and providing statistical results was not possible for each outcome of all reviews. This means that this review cannot provide readers with the optimal, gold standard intervention that will improve the outcome measures discussed in this review. However, there is evidence in this review, although not all significant, that physical activity interventions do benefit people living with dementia of any stage. Therefore, further research should be conducted, locally, to try and prescribe the optimal physical activity intervention that can be conducted in mixed settings, in particular in residential homes where 97% of residents' days are spent sedentary (Sackley et al., 2006), in order to try and promote the quality of life and well-being of residents. Moreover, future

reviews should consider the inclusion of studies that use observational measures of some outcome measures such as quality of life, and therefore not include randomised controlled trials in the review only. In support of this, Aspland and Gardner (2003) reported that observation enables opportunities to examine real processes and outcomes of specific research interest, regardless of cognitive abilities. Whilst quantitative research is able to demonstrate the extent to which an intervention might 'work' i.e. test the effectiveness, qualitative research offers intervention studies the opportunity to understand how an exercise programme may or may not impact on the recipient. It is important that qualitative research is embedded alongside quantitative measures in definitive randomised controlled trials, but also important in its own right for exploring the impact of interventions that are in early stages of development or implementation.

Chapter 3: A qualitative exploration of the impact of DementiaGo's Moving Moments project in residential homes.

Introduction

This study aimed to evaluate the impact of DementiaGo's Moving Moments project in Gwynedd council residential homes. As previously mentioned, the main purpose of the evolving Moving Moments project is to support staff to promote physical activity and movement, to empower residents to move more. Following on from the success of the DemenitaGo's physical activity programme for people living with dementia and their caregivers, delivered in community venues, it was imperative to look at continuing to support people as their disease progresses and they move to live in residential care.

In order to start working on this project, the DementiaGo team linked in partnership with Gwynedd Council residential homes' area managers, residential homes' managers and care staff in January, 2018. The first step of this project was to meet with the managers and care staff of the 11 Residential Homes to discover what support and training would be beneficial. Following the initial discussion, DementiaGo created a specific 'Moving Moment' workshop which was delivered as one day Workshops, is association with training providers 'Later Life Training'. Three workshops were held in 2018 where 42 care staff attended, and 2 workshops were held in 2019 where 27 care staff attended. The main areas of discussion in the workshops included what is physical activity or movement, what are the benefits for residents and staff, ideas for action, what helps and hinders, and risk guidelines and enablement. The emphasis of these workshops were therefore on teaching the care staff the importance of keeping active and challenging their residents to move more to improve well-being, due to evidence suggesting that residents in care home settings spend most of their day in a sedentary state with little interaction with care staff (Sackley et al., 2006).

Another way DementiaGo supported the staff was by providing an activity bag for the eleven residential homes. The activity bags consists of simple games and dance equipment including a Boccia set, skittles, tennis, various sized balls, bean bags, parachutes etc. DementiaGo also created a Task Group made up of care staff and DementiaGo team. The task group meets regularly, every two to three months in a central location (Porthmadog's leisure centre). The aim of these meetings are to share ideas and support each other, and also to create physical activity challenges between the residential homes.

One of the physical activity challenges that was set by the Task Group was the 'Go For Gold Sports Week'. The first ever Go for Gold Sport week took place in September 2018, and saw residents,

staff and families compete in a series of challenges against other residential homes. The sports week consisted of two parts. The first part was the 'Inter-Homes Sports Week Challenges', where the residential homes were to complete challenges during the week. This was a way to include residents who were unable to go outside of the home to attend the Sports days. The inter-home challenges included:

- 'Walking Wednesday'- residents, staff and family members recorded their number of steps between 10am-4pm
- 'Pom Pom Keepy Uppy'- residents were challenged to make their own pompoms and then record the amount of times they could be tapped up on a tennis racket
- 'Skittles'- residents to knock down as many skittles as they could
- 'Bean Bag Target'- points awarded for bean bags landing on specific areas of the parachute target
- 'Sit-to-Stand'- points awarded for the number of sit-to-stands performed in 30 seconds.

The results of the Walking Wednesday was impressive, after adding up all the steps from each homes, the collective total steps was 360,054 (161 miles), which was the equivalent of walking from Caernarfon to Cardiff!

The second part of the Go for Gold Sports week was the County Sports days. Nine out of the possible 11 residential homes took part. The County Sports days were held at Dwyfor, Arfon and Meirionnydd's leisure centres. The challenges included:

- 'Boccia'- consisted of three residents in a team. Points scored for each ball closest to the jack
- 'Penalty Shoot-Out'- residents to take a penalty against a goal keeper. A point for each goal scored.
- 'Triathlon'- Sit to stand, heel raises and chest press exercises. The aim of this challenge was to do each exercises as many times as they could in 20 seconds.
- 'Last Pom Pom Standing'- all teams took part together, points scored for the home with the most pom-poms left on the parachute.
- 'Cheerleading'- homes to come up with their own routine, to any song. Points scored by judges for the best routine.

All residents received a medal for taking part and the winners of each county sports day received a shield to keep for 12 months.

Following the Go for Gold Sports week, DementiaGo organised further 'Moving Moments' workshops for residential homes staff, including a workshop held by 'Dawns I Bawb' (a local dance company), which gave care staff ideas of seated exercises that can be done to songs, and a workshop on using the outside space; 'Why don't we go into the garden?', which was held by Step Change Design. The aim of the workshop was to increase confidence and interest in using the existing outside spaces in the care staff's work settings, in order to engage residents regularly and meaningfully in their gardens. At the time the thesis was written, DementiaGo were currently organising more workshops for care staff to take place during 2019, including a basic training on chair based exercise.

Aim:

The aim of this paper is to qualitatively evaluate the impact of DementiaGo's project, 'Moving Moments', in residential homes on residents, relatives and staff.

Methods

To assist the reporting of this qualitative research, the researcher followed Tong, Sainsbury and Craig's (2007) COREQ (Consolidated criteria for reporting qualitative research) checklist.

Research Team and Reflexivity

The research team for this project consisted of a female Masters by Research Student Lia Haf Roberts (LHR), who has a first class honours BSc in Sport, Health and Exercise Sciences, alongside her academic supervisors Professor Gill Windle (Bangor University) and Dr Katherine Algar-Skaife (Bangor University). At the time of the study, the Masters by Research Student was a full-time student at Bangor University, funded by Knowledge Economy Skills Scholarships (KESS) 2 and DementiaGo (a Gwynedd Council project). Knowledge Economy Skills Scholarships (KESS 2) is a pan-Wales higher level skills initiative led by Bangor University on behalf of the HE sector in Wales. It is part funded by the Welsh Government's European Social Fund (ESF) convergence programme for West Wales and the Valleys.

The only experience of research the student had prior to the study was conducting a quantitative research project as part of her undergraduate degree, where she conducted each stage of the research process; developed a research question, created a testable hypothesis, collected data, analysed data using a number of statistical tests and discussed findings. Since beginning the study,

the student had undertaken 'Good Clinical Practice' (GCP) training and 'Valid informed consent with adults lacking capacity' training, both provided by Health and Care Research Wales. Furthermore, the student had completed an introduction to qualitative research methods online course via UDEMY, which taught the student how to: (a) design research questions, (b) write interview questions, and (c) conduct observation, and introduced the student to basic data analysis techniques.

Prior to the commencement of the study, the researcher (LHR) had no established relationships with the homes that were included in the evaluation nor the residents. However, the researcher did have an existing connection with DementiaGo as the researcher had been volunteering with their community classes prior to the commencement of the Moving Moments Project. This previous knowledge of DementiaGo meant that the researcher was familiar with the work that they do in the communities.

To increase the study's participants' knowledge of the researcher, they were made aware that the researcher was a student at Bangor University and was conducting an evaluation of DementiaGo's project Moving Moments in three of Gwynedd Council's residential homes as parts of her Masters by Research.

Study design and methods

This study was a cross-sectional qualitative evaluation of the impact of DementiaGo on residential home residents, relatives and staff. Data were collected at one time point only, with no pre and post interviews. The research was conducted by a Masters by Research Student (LHR) using qualitative interviews to incorporate the lived experience of the participants, along with field notes and personal reflections.

The personal reflections were of the researcher's experiences of data collection at the homes, Moving Moments Workshops for staff, DementiaGo's annual Boccia tournament, and finally the researcher's experience of running Boccia sessions on Wednesdays at Care Home 3. Boccia is a game similar to bowls where participants attempt to get the balls closest to the jack. There are many ways in which the game can be adapted to focus on targets and power etc. To clarify, the student had been visiting Care Home 3 to run Boccia sessions with residents because the residential home had begun attending DementiaGo's community class which had to stop for a period of time whilst DementiaGo's staff member was recovering from surgery. The researcher felt that it was

important to keep the home's momentum going and therefore offered to voluntarily visit the home and run Boccia sessions until the community classes re-started.

This study was the first exploration of the impact of DementiaGo's Moving Moments project in the residential homes on residents, staff and relatives. Qualitative methods were deemed the most appropriate for this exploratory research as qualitative methods are known to answer questions about experience, meaning and perspectives from the participants' point of view (Hammarberg, Kirkman, & de Lacey, 2016). By using qualitative methods, such as the use of semi-structured interviews, the researcher can examine why events occur, what happens, as well as what the events mean to the participants (Biklen & Bodgan, 2007). Furthermore, qualitative methods gives the participants the freedom to speak in their own voice and elaborate as they wish, rather than conforming to categories imposed on them by others (Sofaer, 1999). This more descriptive capacity of qualitative methods can therefore result in a more complete articulation of an intervention that can be used in helping to explain outcomes and also is in encouraging the adoption of effective practice (Sofaer, 1999). This therefore justifies the researcher's choice of conducting a qualitative methodology rather than quantitative, to understand the impact of DementiaGo on Gwynedd Council's residential homes. The sample size decided upon prior to recruiting participants was 4 residents, 4 members of staff and 4 relatives from each participating home (a total of 36). No sample size calculation was made as the sample size decided upon was deemed achievable in the time-frame for this Masters by Research (12 months), based on previous experience of the researcher's academic supervisors. If the researcher were to use a quantitative methodology, the results would have been significantly underpowered because of the small sample size, which further justifies the choice of qualitative methods.

Study setting

The DementiaGo team have been working with staff from 11 Gwynedd County Council residential homes to bring movement into everyday life, and therefore increase physical activity for the quality of life of residents. This project aimed to evaluate the impact of DementiaGo so far (up to May, 2019) in three residential homes, one in each area of Gwynedd (Dwyfor, Arfon and Meirionnydd). The locations of Gwynedd to be included in the evaluation was selected by the residential homes' area managers in collaboration with the DementiaGo team. The selection were based on having a home to represent different residential locations within Gwynedd. The locations of Gwynedd were purposively sampled, then the selected homes from each location was random. The purpose of selecting one home from each area of Gwynedd was to ensure that the study was evaluating the impact of DementiaGo on a mixture of people from different geographical areas (one home was in

a pre-dominantly Welsh speaking rural location close to the beach on the Lleyn Peninsula; another home was in a pre-dominantly Welsh speaking village at the foot of Snowdonia; and the other home was in a less Welsh speaking location that was known to attract holiday makers and thought of as a retirement destination.

Ethical Issues

In seeking consent from participants, the current guidelines from the British Psychological Society on evaluation of capacity was followed. In this context, consent has to be regarded as a continuing process rather than a one-off decision, and willingness to continue participating in the evaluation was checked before each engagement.

The main ethical consideration this study faced was the potential involvement of people living with dementia and their capacity to consent. As no one should be unfairly excluded from the evaluation, the decision was made between the research team to not make diagnosis and severity of dementia an inclusion/exclusion criteria. It was anticipated that some residents were able to give informed consent from the outset, however, there could have been cases where a resident was unable to give informed consent from the outset, or cases where the resident's level of impairment had increased, and therefore would not be able to continue to give informed consent.

The Mental Capacity Act (2005) recognises that a person must be assumed to have capacity unless it is established that they lack capacity. To establish whether the potential participant's memory difficulties impacted their capacity to make an informed choice, capacity was assessed by the researcher each time she engaged with the participants. In line with the Mental Capacity Act Code of Practice (Department of Health, 2005), this included four parts: the individual's capacity to understand the information relevant to the decision to be made, to retain the information, to use or weigh the information to arrive at a choice/decision, and finally (in situations where people couldn't communicate their decision in any way), inability to communicate a decision in any way. If a participant was judged by the researcher as not to have capacity (following the capacity assessing checklist provided by her academic supervisors), the researcher would have followed guidance of the Mental Capacity Act (Department of Health, 2005) and sought a consultee's opinion. A consultee would be a friend/family member/carer/suitable person who would will address the potential involvement of the participant, and what their wishes would have been, if asked to take part when they had the capacity to express a view.

The anonymity and privacy of those who participate in the research was respected and information were stored in line with the Data Protection Act 2018 (DPA, 2018) and Bangor University policies. Data were securely stored in anonymised form on a password protected encrypted computers at Bangor University. These are regularly backed up by One Drive and can only be accessed by the researcher. Hard copies of the demographics questionnaires were locked in a filing cabinet in a locked office, and securely disposed of upon data entry into Microsoft Excel. All personal data were marked with the identification code of each participant, which was traceable to the consent forms, which was stored separately in a locked filing cabinet. No personal, sensitive, or confidential information/electronic data were transmitted via email or other file transfer systems that did not conform to data protection. Such data were encrypted prior to being transmitted. All personal data will be destroyed 6 months after the end of the study and research data will be retained.

Audio recorded material was transcribed by the researcher. Personal identifiers were substituted during transcription. To ensure confidentially the researcher anonymised the data after it had been transcribed so that individuals were not identifiable from the data. Upon completion of transcription, digital files were deleted.

Ethical approval for the research was obtained from the School of Health Sciences Research Ethics and Committee at Bangor University, January 07, 2019, and NHS ethical approval obtained from the North Wales Research Ethics Committee (19-WA-0067) [see Appendix C for ethical approval letter].

Recruitment of participants

The researcher made the initial contact with the residential home managers that were chosen to be included in the research via email. The researcher and managers arranged dates to meet in order to fully explain the research and arrange information session at each home. Information sheets [Appendix D] and posters [Appendix E] were available throughout the home. Potential participants (including residents, staff and relatives) were approached by care home managers and were then given a personal copy of the information sheet in Welsh or English, detailing the study aims and procedures.

Residents

Participation was open to all residents, diagnosed with dementia or not, as it was thought that no one should be unfairly excluded from the evaluation. Therefore, the decision was made not to

make diagnosis and severity of dementia an inclusion/exclusion criteria. All potential participants were opportunistically sampled, based on their availability to participate and the short timescale of the study. Those who verbally agreed to take part met with the researcher to have a further discussion of the research where the researcher carefully explained the aims of the research, enabling the opportunity for any questions to be asked. Participants were given the choice of participating in a language that they felt most comfortable as the researcher was bilingual (Welsh/English), in accordance with Bangor University's Welsh Language Policy. All participants were given an information sheet which included all information about the research [Appendix D]. Wherever possible a family member or care staff was involved to make the participant feel more at ease. An initial assessment of capacity was undertaken by the researcher following the steps outlined in the previous section 'ethical issues', using the checklist provided as a supporting document [Appendix F] before seeking consent to take part in the research. Informed written consent was obtained from participants by completing a consent form [Appendix G], or a consultee's opinion was sought [Appendix H] if the resident was judged as not having capacity, following guidance of the Mental Capacity Act, 2005 (Department of Health, 2005). In each case, the researcher made the participants aware that their involvement was voluntary, and they would be free to withdraw from the study at any time. Furthermore, participants were advised to feel free not to answer any questions if they chose not to do so.

Staff

Potential staff participants had been approached by the manager and had received an information sheet. Staff were given sufficient time to decide whether they would like to be involved in the study before being approach by the researcher. Eligible staff participants had to be a regular staff member, including care staff or domestic staff, in one of the care homes included in the study. Eligible staff that wished to take part were asked to sign a consent form [Appendix G]. Participants were made aware that they could take part in their preferred language (Welsh/English), advised to feel free not to answer any questions if they chose not to do so, that they could leave in the middle of the interview if it was required of them to attend to a resident, and their involvement was voluntary meaning that they were free to withdraw from the study at any time.

Relatives of residents

Relatives of residents in the included care home were made aware of the research by the care home manager. Relatives were invited to participate if they had regular contact with their relative in the home, visited the home at least once a week, to ensure good knowledge of the resident and the home itself. The resident associated with the relative did not have to be taking part in the project in

order the relative to take part. Relatives who wished to take part were advised to contact the researcher to arrange a suitable time and date, where the researcher thoroughly explained the research face to face. Yet again, after having sufficient time to read the information sheet and decide if they wished to take part in the research, the relative participants were asked to sign the consent form. All participants were offered the choice to participate in a language of their choice (Welsh/English), and were advised not to answer any questions that they did not wish to, with the choice of withdrawing from the research at any time.

Written consent was obtained for audio recordings of interviews by all participants too prior to participation commencement.

Data collection

Topic guides were developed through consultation with the researcher, academic supervisors and DementiaGo's co-ordinator, for each participant group; residents (Table 4), staff (Table 5), and relatives (Table 6). To ensure that the researcher didn't miss an important topic/question, the researcher drafted a set of questions to go alongside the topic guides. These questions were not strictly followed, but were there to aid flow of the interview; residents [Appendix I], staff [Appendix J], relatives [Appendix K].

Once informed consent and demographic information had been collected (via a demographic information sheet [Appendix L] or resident care records), one-off semi-structured interviews were held with individual participants between 01/04/19 and 04/05/19 by the Masters by Research Student (LHR). Two residents had a member of staff to accompany them, and one resident had a relative to accompany them during the one-off interview. One interview had two staff members being interviewed together because they didn't want to do it alone.

The semi-structured interviews took place in a public but quiet area of the care homes, apart from four residents' that requested to stay in their room for the interview. Permission was given by care home managers for these interviews to take place and the room doors were left open. As the researcher was bilingual, interviews were conducted in the participants' desired language (Welsh/English) and lasted between 15 and 45 minutes. The researcher advised participants that they could ask any questions during the interview and that there were no correct or incorrect answers. The participants were also aware that they could choose not to answer a particular question, and that they could have a break at any time. Staff participants were also advised to leave the interview if they were needed at any time, for example, if a resident required assistance. All

interviews were audio recorded on a Bangor University encrypted Dictaphone (Olympus DS-3500, digital voice recorder) so that interviews could then be transcribed for data analysis.

Furthermore, as previously mentioned in the 'study design and methods' section, the researcher also collected data via personal reflections of experiences during the research process. The personal reflections were informal and for the researcher's own use.

Table 4.

Interview topic guide for residents

Interview topic guide for residents
Theme: exploring the residents' day-to-day routine in the home • Interests and hobbies • The residents' usual day (activities/routine) • Opinion about personal movement during the day (do they need aid moving around, do they move around often) • Any daily activities
Theme: exploring the residents' understanding of physical activity • Opinion about keeping active/fit • Physical activity history (how active have they been over the years) • Awareness of DementiaGo – activity bag, sports week, sport day. • Liked/Disliked activities • Feelings after physical activity. • Any restrictions for resident to take part.
Theme: exploring the staff's thoughts of physical activity • the extent to which the staff get everybody involved in activities • the extent to which the staff get involved with the residents during activities • the staff's recruitment of residents to take part in activities • any restrictions to staff getting involved
Theme: 'have your say' • Feedback about current activities in the home • Suggestions for new activities/improvements

Table 3.2.

Interview topic guide for staff

Interview topic guide for staff
Theme: exploring the staffs' thoughts about the care home environment • The extent to which the environment might enable (or prevent) opportunities for activities • Opportunities for interactions within the care home environment • Overcoming barriers to do physical activities in the home. **Theme: exploring the staffs' understanding of activities** • Opinions about physical activity • Awareness of the DementiaGo project 'moving moments' • The extent to which the staff has been involved with the project (attended workshops, sport week, sport day, conducting activities (e.g. Boccia) in the home. • Fun activities/challenging activities **Theme: exploring the staffs' perceptions of others' attitudes** • Perceptions of other staff attitudes and behaviour around activities and exercise • Perceptions of residents' attitudes and behaviour around activities • Perception of care manager's involvement/adaptiveness with activities. **Theme: 'have your say'** • Feedback and suggestions for further development of DementiaGo

Table 3.3.

Interview topic guide for relatives

Interview topic guide for relatives
Theme: exploring the relatives' thoughts about the care home environment • The extent to which the environment might enable (or prevent) opportunities for movement • Opportunities for interactions within the care home environment **Theme: exploring the relatives' understanding of activities** • Awareness of the DementiaGo project 'moving moments' • Perceptions of care staff attitudes and behaviour around activities and exercise **Theme: exploring the role of movement for their family member** • Extent to which they perceive the family member is moving around during the day • Perceived impact of DementiaGo for their family member (ascertain outcomes 'in the moment' and beyond) • Sharing movement activities together **Theme: 'have your say'** • Feedback and suggestions for further development of DementiaGo

Data analysis

All demographic information collected were inputted into Microsoft Excel to manage and calculate descriptive statistics of the study population. All interviews were transcribed from audio recordings and all personal identifiers were removed to retain anonymity. Participants were each assigned to a personal identifier number (e.g. RES01, ST04, FAM02). The researcher listened back to the audio recordings to ensure accuracy of transcripts content. To support coding and analysis of the data, the qualitative research software programme NVivo (Version 12) was initially used to enhance rigour (Richards & Richards, 1991). However, the researcher then realised quite soon into the coding process that the researcher's preferred method of coding was by hand. Therefore, the researcher completed the coding of all transcripts manually, in order to acquire a more holistic impression of the data. To enhance quality control, the research team met after each person independently coded one of the transcripts in order to compare and ensure that the student had understood the process of coding.

The researcher adopted an inductive thematic analysis approach (bottom up), meaning that the analysis and identification of themes were data-driven. However, during the coding phase of analysis, the researcher identified some themes that were more deductive and linked to the topic guides. Therefore, it is more accurate to term the analysis as hybrid thematic analysis as both inductive and deductive techniques were adopted to analyse the data (Pluye et al., 2011). Blending inductive and deductive coding is a common characteristic of qualitative research (Fereday & Muir-Cohrane, 2006). After initially using NVivo to support the analysis of the data, the researcher continued analysing by tabulating in word documents [see appendix M], bringing themes together with pen and paper on flipcharts (Figure 3). A description of actions made for each stage of Braun and Clarke's (2006) thematic analysis process is presented in Table 7.

The epistemological stance of the thematic analysis was a realist method as experiences, meanings and the realities of the participants were examined to analyse the data (Braun & Clarke, 2006). The researcher had previous experience of volunteering with DementiaGo's physical activity classes in the community and volunteered to conduct Boccia session in one residential home; and therefore brought assumptions based on previous experiences of physical activities having a positive impact on participants.

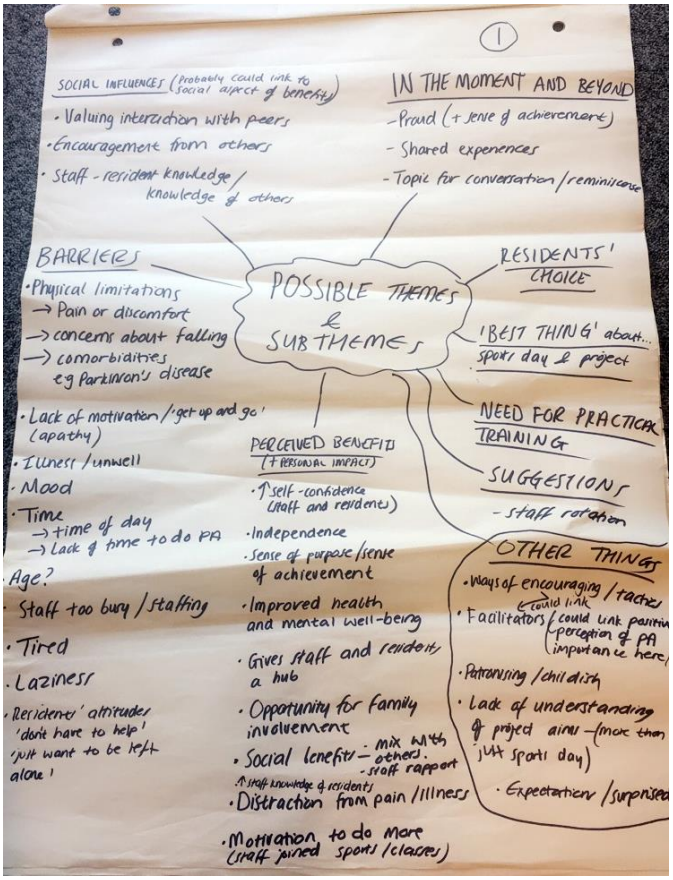
Table 7.

Summary table of the actions made at each stage of the thematic analysis

Phase of thematic analysis	Actions made
1. Familiarising oneself with the data	Transcribed all data-set independently; read and re-read all transcripts; noted down initial ideas.
2. Generating initial codes	The researcher manually coded interesting features of the data that could have potentially become useful later on in the process by writing notes on the transcripts that were analysed; coded all staff transcripts first, then residents and then the relatives' transcripts; data was identified as a code it the information appeared interesting and relevant to the research question. Examples of codes were sport day, shared experiences, perceived benefits of moving, feelings after, enjoyment, mix with others, competition, proud etc [see Appenidx M].
3. Searching for themes	Codes were analysed and the researcher considered how some codes could combine to form themes; codes were collated into 22 potential themes and all data extract relevant to each potential themes were collated to a tabled document [see Appendix M].
4. Reviewing themes	Checked if potential themes worked in relation to the coded extracts; checked if some themes could collapse into each other; illustrated the bringing together of themes (Figure 3).
5. Defining and naming themes	Analysis was continued and the specifics of each themes were defined; the researcher and academic supervisors agreed on the themes and sub-themes names; final refinements of identified themes were demonstrated on a flipchart (Figure 4). Please note that the theme names have since been altered to be more descriptive and to meet the examiner's correction point.
6. Producing the report	Appropriate extracts were selected to support identified themes; discussion and interpretation of the analysis by relating back to the research question and existing literature was conducted, as presented in chapter 3 and 4 of the thesis.

Figure 3.

The initial flipchart illustrating the bringing together of possible themes



The process of analysis followed the six stages of thematic analysis suggested by Braun and Clarke (2006). The first stage consisted of the researcher reading and re-reading transcripts to get familiar with the data. During this process, the researcher wrote down initial ideas and added additional ideas that emerged whilst re-reading the transcripts. Next, the researcher coded all staff transcripts manually to generate initial codes. All transcripts were coded at least twice by the same researcher to ensure that nothing was missed out. The researcher then used a Word document to collate data extracts from the staff transcripts that fit under potential themes.

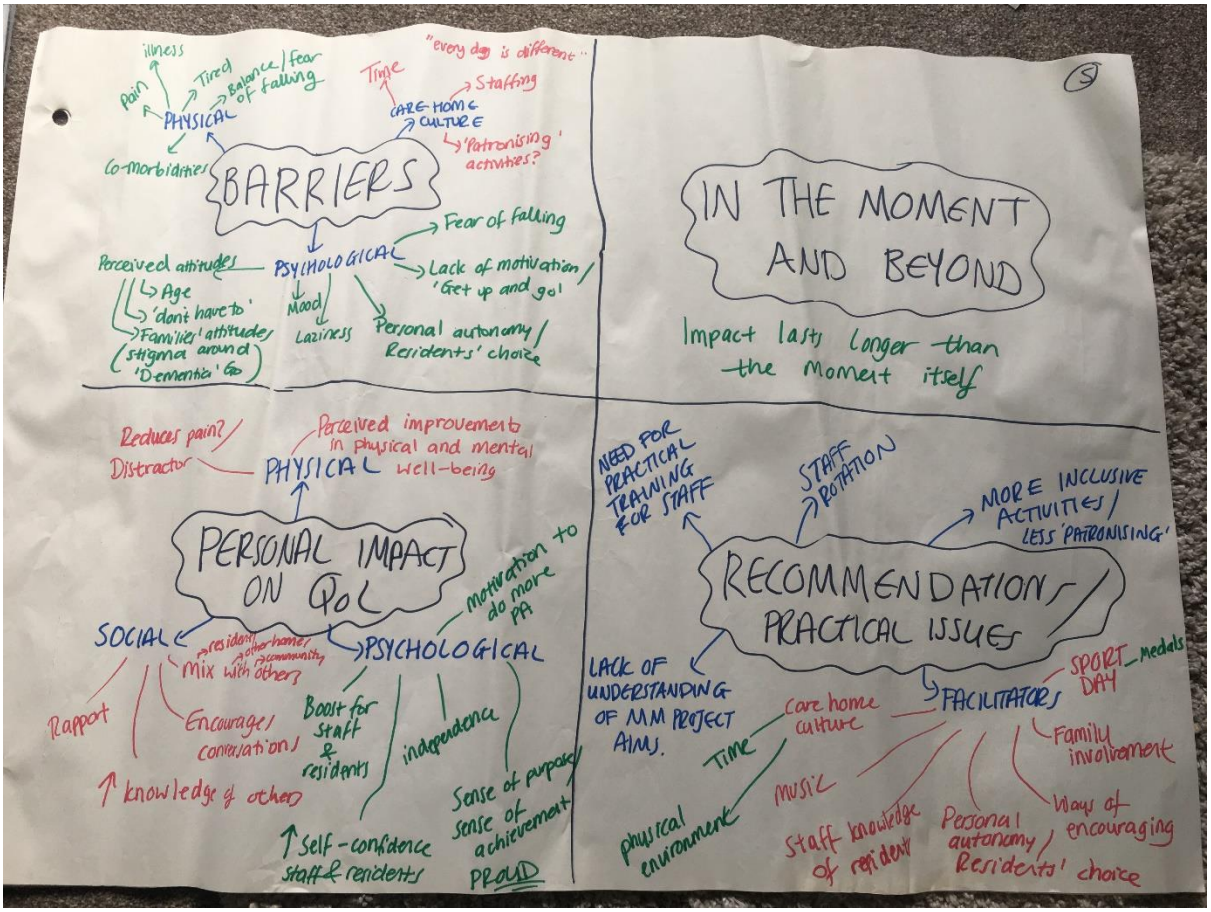
Next, the researcher repeated the process for both the residents' and relatives' transcripts. Additional potential themes were added to the word document as they were identified. During this process, the researcher referred to her personal reflections and field notes to search for any supplementary data that could fit into the potential themes. The themes were reviewed to ensure that extracts fitted the given theme, and no further extracts were within the data set (Braun & Clarke, 2006). The word document with all of the possible themes with extracted quotes can be seen in Appenix M. The researcher moved themes around to fit each other and used flipcharts to

collate themes. The researcher coded the data independently and met regularly with academic supervisors to discuss the coding process, themes and subthemes.

Once the researcher was satisfied with the identified themes (see Figure 4), the researcher met with the research team (LHR, GW and KAS) and the themes were then defined and named (Braun & Clarke, 2006). Quotes were chosen by the researcher for inclusion to support identified themes (Braun & Clarke, 2006). Regular contact between the researcher and academic supervisors assured the rigour and trustworthiness of the analysis. The research team met to discuss one of the transcripts and possible emerging themes, again when in the early stages of analysis to refine the themes again to finalise theme names. The regular contact between the research team ensured quality control of data.

Figure 4.

A flipchart illustrating the identified themes. (Please note that 'Barriers' has been re-named to 'Barriers to overcome' and 'Recommendations/Practical issues' has been re-named to 'Moving forward' after having made corrections to the thesis following the examiners' feedback).



Stakeholder validation

Following the data analysis, the researcher presented the preliminary findings with care home staff that attended the Task Force Group meeting (meetings between DementiaGo and all the residential homes in Gwynedd receiving the service) on 26/07/19. Due to various reasons, mainly associated with staffing issues, only seven staff members were present at this meeting. Out of the seven staff members, none represented any of the included homes in this study, therefore no participants of this study was present. However, the staff that were present were given the opportunity to provide feedback about the findings and identified themes. The findings resonated with the staff, who related them to their own experience of their day-to-day care practices. No further changes or analysis were considered necessary as there were no disagreements. The researcher ensured that the findings would be written up in a report for each home at the end of the study, in an accessible language as highlighted by Langdridge (2007).

Results

The results explore the impact of DementiaGo's Moving Moments project for residents, care home staff, and residents' relatives of three Gwynedd Council residential homes.

Participant characteristics

Informed consent was sought by 33 people to participate in this study. 12 resident participants took part in the research, four residents from each of the included homes. As indicated by care staff, four of the residents had been diagnosed with dementia. It was believed by staff that more than four residents had dementia, but had no formal diagnosis. As mentioned in Chapter 1, according to Alzheimer's Research UK, the dementia diagnosis rate in Wales was only 53% in 2017/2018, therefore it is possible that some participating residents had undiagnosed dementia. However, all 12 resident participants were deemed to have capacity to consent for themselves throughout the research. The researcher assessed capacity of residents at each contact, in case a participant's level of impairment increased, or if the participant was no longer deemed to have capacity. Ten of the participating residents were females, and two of the participating residents were males. The oldest resident participant was 93 years old and the youngest was 65 years old (mean = 84, SD= 8.47) years. All were white European origin and had lived in the residential home for between 0.5 to 3 years.

Data were collected from thirteen members of staff and included one residential home manager, eleven care staff and one domestic staff aged 23 to 60 (mean = 46, SD= 10.45) years. All participating staff members were females who had worked in the home from between three weeks (one staff member; the researcher accepted her inclusion due to her wish of sharing her opinions) and 23 years. All apart from one staff participant were white European origin. Ten staff worked full-time at the home, and three staff worked part-time. All staff worked mostly day shifts, which was deemed important as night-shift workers would not see activities occurring in the day time which was deemed crucial for this evaluation research.

All apart from one of the eight relative participants were females. The relative participants were between 49 and 90 years old (mean = 66, SD= 12.967) years, all of white European origin, and were either retired (n=5) or employed/self-employed (n=3).

As the researcher explored the impact of the Moving Moments project from three different perspectives; residents, staff and relatives, there wasn't much overlap in the data. Furthermore, the participants' involvement in the Moving Moments project also varies; some resident participants had been more involved than others, similarly with the staff. Some staff had been more pro-active with attending workshops, conducting physical activities with the residents and preparing for the Go for Gold sport week, whilst other staff participants had not been as involved. A variety in data was also seen with relatives as some were very aware of the Moving Moments project and the activities involved, whilst other relatives had not heard of the project and wasn't aware that the project was taking place in the homes. Because of the variety in involved in the project, there were therefore some differences in the data.

During the duration of the study, none of the participants dropped out.

Personal reflections on the research process

The following sections contains the original personal reflections that I wrote at several points during the research process. These reflect the researchers' experience on the time spent at residential homes, Boccia sessions, workshops and the thematic analysis process. To ensure anonymity, all names have been changed.

Data collection- Time spent at residential homes

Care Home 1

- The first day of interviewing went great (1/4/19). I was very nervous as I have never conducted interviews before and wasn't sure how it would go. I was anxious of how many participants would be willing to take part and also how long the interviews would take.
- I was greeted by a member of staff who took me to the quiet room so that I could set up and I felt welcome, being offered a cup of coffee.
- I had already organised with one of the relatives that I would interview her at 10:30am so that was great. Both the daughter and her mother came and sit down and I talked them through. I explained that I had never done this before so I was as apprehensive as they were. I felt more nervous with Valerie as I had been 'warned' from the staff that she can be quite challenging and likes to complain about everything. However, the interview went great and both were very friendly. I began by interviewing the daughter and then the residents so that I had two separate interviews.
- A staff member came to the room and mentioned that a resident was very keen to take part and so I then interviewed that resident straight after the first two which was great. This meant I had three interviews done before lunch which was a great start.
- I felt like my confidence had grown already.
- The interview with that resident lasted over 40 minutes and was quite challenging as she kept going off track. As she had serious OCD I found it hard to disrupt her and try and get her back on track. However, I feel like I did this successfully without being rude.
- After lunch time I managed to interview two staff members and another resident
- Most interviews lasted around 15 minutes + 5 minutes of completing consent form & demographic sheet.
- I went home on the Monday with 6 interviews! I had aimed for 3-4 interviews and so I was very happy.

Second day (2/4/19)

- I was aware and prepared that this day could be totally different to the first day as the first day went so well (due to a rather quiet day in the home)
- Today had different staff in and most I hadn't met before.
- I set up and everyone seemed to be busy so I started to write notes up etc. before I started.

- Quite soon after, a member of staff that I hadn't met before came up to me and asked if I was waiting to see anyone. I explained that I was there for interviewing and that I had been there yesterday etc. I asked if the manager was in and I was introduced to the manager
- I explained to the manager that yesterday had gone very well and that I only needed two more staff and two more residents today. The manager gave me a list of names of residents to approach to take part in the research.
- The manager suggested that I would go and talk to a 95 year old resident as she likes to talk in Welsh and supported students who visit the home. The manager explained that she won't leave the bedroom and so gave me permission to go and talk to her in the bedroom.
- This resident became my third resident participant and she had never done any physical activity in her life. Therefore it was quite interesting to include in the evaluation. .
- After I finished interviewing the staff, I only had relatives left to interview. However, after spending days at the homes, I realised that there wasn't many relatives visiting the homes whilst I was present. The manager said that it was doubtful that I could get any more relatives that would be willing to take part. I decided to leave it with 1 relative as this could be a discussion point and also I could be waiting around every day, day and evening, just waiting to see if relatives would visit.

During my time at this home I felt that staff were not fully aware of what DementiaGo are trying to do in the home. It seemed like they had only began using the Boccia set, just because there was a tournament coming up that they had entered to. I also felt as if they were doing more just because I was around, for example they were going to play Boccia in the afternoon I was there etc. A lot of the staff were not really aware of the workshops either, not sure if this was down to staff being new or what? I felt like staff need educating of what the aims of the project is, maybe each home should receive a flyer with information? This could include DementiaGo's background, aims of project, workshops content, tips for movement in the home, what is in the activity bag and what they can do with etc.

Care Home 2

- The first day of interviewing turned out to be the 5th April (information session day) although it was planned to start on the 11th of April. I had turned up to do the information session but the manager had understood from the assistant manager that I was starting the interviews on the 5th of April

- This was great as I went straight in to interviewing. Information sheets had been left in the homes since I met the assistant manager, therefore they had had enough time to read and think about taking part in the research
- I had no time to feel nervous or overthink about how the interviews would go which was great. I set up in the main lounge and the manager sent a first member of staff through.
- Between the time I was there (2-5pm) I managed to do five interviews (two staff and two relatives).
- The manager was amazing. All I had to do was sit in the lounge and as soon as one interview was over she would send the next staff member in/or stop the next relatives that came into the home to take part! It was like a conveyor belt.
- The only issue is that I forgot to press 'new' on the Dictaphone following the first interview and therefore two interviews were recorded on the same tape. However, it doesn't matter as I will transcribe them separately.
- The manager also gave consent to take part in the research which was great. It was beneficial and useful to hear a manager's point of view and thoughts.
- After the five interviews I packed up and the manager told me that I could just come back whenever was easier for myself, at any time, and that I didn't need to stick to the dates that was agreed on with the assistant manager at the first meeting.
- II was also informed that there was a Boccia event happening in the home on the Monday (8/4/19) which was great. Unfortunately I couldn't be there as I was umpiring in DementiaGo's Boccia tournament at Porthmadog. Here, another care home were coming over to play Boccia and have afternoon tea. When I visited again the following week I asked the staff how the afternoon went and they said it was lovely and everybody enjoyed. This is great to hear and hopefully will motivate them to continue organising further similar events.

10/4/19

- I arrived at the home at 10:30am and went straight to the office. The manager wasn't in but the assistant manager was so I asked her if it was ok for me to set up in the main lounge again and continue with the interviews.
- Unfortunately this day was much harder than anticipated. It was busy with builders and staff seemed to be busier than they did on Friday as there was a GP there etc. Nobody came up to me and I felt like I couldn't go around to recruit residents as it was agreed with the manager that she would give me names to try and recruit. I went around to talk to residents

anyhow but I didn't know who had capacity/dementia/who had been involved with DementiaGo etc.

- I therefore decided to leave it and return on Thursday. However, I managed to bump in to a staff member who has been very involved with DementiaGo and managed to interview her quickly. Unfortunately as it was busy in the home the staff member had to be quick and therefore I felt like I had to rush the interview. Although it went ok I felt like I could have asked more and expanded more on questions if we had more time.

11/4/19

- I felt quite nervous and demotivated visiting the home as I was worried that it would be a day similar to yesterday (busy) and that the manager wouldn't be there
- However, I rang the bell and the manager came to greet me. I was relieved. I updated her about where I was at and told her that I had four residents and two relatives left to interview.
- As we were talking a gentleman came through who was a relative, the manager asked him if he had 10 minutes spare , which he had, and he became my third relative interview in Care Home 2. I rushed to set up and began the interview. Luckily I checked the Dictaphone and realised that it wasn't recording. I began to panic but I didn't want to make it obvious to the relative so I switched it on quietly, and continued with the conversation. As we were coming to the end I explained that the first part of the interview hadn't been recorded unfortunately as I had rushed, and then I tried to recap what we had spoked about before I realised the Dictaphone wasn't on!
- The rest of the day went smoothly yet again, the manager put a staff member in charge of helping myself to approach residents to recruit
- I felt happy and confident by now as I knew that I could complete the interviews by the end of the day. I sat down in the lounge to write some notes and input data onto excel and I got offered a chocolate sponge with chocolate custard. This made the day even better! I felt very comfortable and at home. It was clear that the staff didn't mind me being there either, I didn't feel as if I was intruding at all.
- The last two interviews were with two ladies who had dementia/undiagnosed dementia. A staff member sat in both interviews to make sure that they were ok and to help me ask questions in a way the residents understood and to make sure there would be no capacity issues.
- No other relatives were around whilst I was there. I was happy though as I had three relatives which was much better compared to the 1 I had in Care Home 1. I told the

manager to contact me if any other relatives showed interest in taking part and then I would be happy to come back at any time.

- Thought after Care Home 2: staff had made it clear that relatives are too busy/working and are hard to get involved. There used to be a family and friends committee in the home before but there isn't anymore, and therefore relatives seem more distance.
- Yet again I felt like staff didn't fully understand the Moving Moments project aims. Some staff gave me the impression that they thought that physical activity had to be a structured exercise class, such as chair aerobics.
- Relatives were not aware of the project at all. At the beginning of each interview with relatives I had to explain what DementiaGo was about.

Care Home 3

- This was my last home to conduct interviews and so I felt very confident. My confidence has grown whilst conducting more and more interviews. Knowing that this is my last home has motivated me too to get the data collection phase of the research finished, so that I can move on and start transcribing
- On the first day 31/04/19 I was in the home from 10:30-4:30. After talking to me, the staff arranged to bring four residents to DementiaGo's community class on Wednesday at the local leisure centre. I met them there and it was clear to see that they had enjoyed themselves. A staff member that was with them said that she could organise transport to bring the residents to the class every week. This made me feel great as it was because of myself being in the home that had got them to come to the community class.
- In the afternoon after the DementiaGo class, I went back to the home and got to interview one of the residents who had attended the community class. This was great as it was fresh in her memory.
- It was hard to understand what one resident was saying in the interview- the resident was quiet and had Parkinson's. This interview was the most emotional as the resident talked about how he had enjoyed the sport day but how his Parkinson's has gone worse over time. The resident was laughing and crying thinking back about the sport day, and he shared stories about another resident who was so proud of winning the medal and how they wouldn't stop talking about it. The resident mentioned how they all felt like celebs following their achievement.
- The manager asked me if I would be interested in going into the home and showing the staff ideas of physical activities to do. This made me feel great as it showed that she trusted me

and it also demonstrated a perceived positive attitude towards physical activity and the Moving Moments project.

- I really have enjoyed my time at Care Home 3. The staff were great, making me feel so comfortable. Got along really well with the residents too, even got to play bingo with them. It seemed to be more of an active home, residents were more awake and talking than the other homes that I had attended.
- However, similar to the other two homes, I feel like there is a lack of understanding of what MM project aims are. Some staff seem to think that DementiaGo is attempting to get staff to do more exercise based activities with the residents, such as chair aerobics, but seem to miss that DementiaGo is trying to improve MOVEMENT in everyday life of the residents, including making their own cup of tea, helping with the dishes, help with laying tables etc. Also, what I realised from three homes was that some participants (residents, staff and relatives) seemed to automatically associate DementiaGo with the sport day only. They seem to miss the point that there is much more to the project than only the sport day.

Boccia sessions at Care Home 3

The following are a few of the personal reflections that the researcher had written following conducting Boccia sessions at the residential home

29/05/19

Following my visit at Care Home 3 during data collection, I had managed to get the staff to bring residents to DementiaGo's community class on Wednesdays. Unfortunately, after the residents had come to the class for the first time and had enjoyed themselves, and were going to return next week, the class instructor received a date for her operation. Therefore the classes had to finish for six weeks until the instructor was back. I felt that this was a shame seeing as the residents had enjoyed themselves and the staff were also keen with arranging transport etc. I didn't want them to lose their momentum and therefore I decided that I would go in on Wednesday mornings, voluntarily, to do Boccia with the residents at the home, taking one member of the community class with me. EQ (DementiaGo project manager) was happy with this and so was the home's manager, they thought it was a fantastic idea and they were very grateful. The first visit was on 29/05/19

- I had arranged to pick up Ella [changed name] at 10:30 and we arrived at Care Home 3 at 10:45. I had told the manager that I would be there between 10:30 and 11 until 12

- To be fair I didn't know what to expect and I was very nervous. I don't know why as I don't usually get nervous, and I had been to the home many times during data collection and felt so comfortable there and the staff were very friendly
- I felt nervous because I imagined myself having to recruit participants and that they wouldn't want to take part etc, and I imagined turning up and the staff having no idea that I had arranged to come in, and that I would have to re-arrange the main lounge to make room, and that we couldn't find the Boccia set (provided by DemGO) etc…but I was so wrong!
- We turned up and we were greeted before ringing the bell by a staff member who said 'oo thank god, we though you weren't coming! I felt instant relief as it was clear that they were aware that we were coming! She then said 'they are all there waiting for you' which was great as they had recruited the residents already! There was a poster by the front door advertising that we were going, it was great! I went to the lounge and it was full! A Boccia game only requires six players, three on each team, but there was ten residents there and three staff all eager to take part. The had rolled out a green mat on the floor but I decided to take it off as I thought it was a tripping hazard and also it prevented everybody from playing as it would be hard to get the ball over the mat from certain angles of the room.
- To be fair I hadn't prepared at all to see so many people. I then had to think quickly how to make it work as people were sat all around the room, not in a straight line like Boccia is usually played. I decided to put the white ball in the middle of the room and handed out the balls. This way, everyone got to take part and be included. One resident didn't understand what was going on and kept holding on to the ball. I gave that resident more attention and tried to find a way of getting the resident to take part. I decided that the resident did better when I told that resident to go first. It was great as everybody cheered each other and encouraged each other to take part.
- I didn't realise how long an hour of Boccia was! I didn't want it to get boring so I asked the staff if they had something similar to hula hoops, which they did. It was great as we then changed the game so that they had to get the ball into the hoops instead of closer to the jack. A staff member then came into the room with a basketball net, so we then changed it again so that they had to throw it through the net into the hoop. Everybody seemed to enjoy themselves but some residents felt their arms getting tired by the end…maybe an hour was too much? The basketball net was a challenge for some as they had to lift their arms higher to throw the ball…which was great as it worked on a different part of their arms. They were moving without realising

- Everybody seemed to enjoy themselves and were happy for us to come back next week. Staff were also keen and we were thanked for coming in. I really felt happy for the rest of the day then knowing that I had got people smiling, even though if it was only for an hour.

05/06/19

- As I didn't prepare before going last week, I made sure I was prepared this week! I read a resource pack on Boccia which included ideas about difference games to play
- I had arranged to pick up Ella at 10am and we arrived at Care Home 3 at 10:15am.
- When I arrived this week it was totally different to last week (last week they were all sat in the lounge waiting for us and everything was already set up). This week we were greeted by a member of staff and she was surprised to see us, in a positive way, and said that they had forgotten that we were coming. It was fine as we were early and we had the opportunity to sit down and have a coffee before we started. The poster saying that Ella and myself were doing Boccia on Wednesday was still up which was great to see.
- We then made our way through to the lounge and moved the sofas and table around so that we had a playing area. Helen showed me where the activities equipment store room was which was handy as I got to see what I could use in the future.
- Staff began recruiting residents, I didn't expect a lot today for some reason but 11 came to play (there was 12 including Ella). It was great. I decided to split everyone in to four teams of three which turned out very good. We did like a mini tournament (red v blue, so team 1 and 3 were together, and team 2 and 4 were together). This gave everybody the opportunity to play with two balls, each game was three ends and everybody got competitive and were supporting each other. There was a real light atmosphere with plenty of laughing.
- After every team had two games each (so six ends each) so 12 games in total, I brought the targets out and we continued to try and get scores/points. That was a laugh as it made it a bit more exciting.
- Time went much quicker than last week and I felt like it wasn't as tiring as the residents had breaks between games, whilst watching the other teams play.
- We finished off by trying to throw the balls into the bag. I moved the bag around until everybody managed to throw a ball in. This was good as they all supported each other when they missed, and their faces looked so proud of themselves when they got the ball in.
- Some of the participants from last week were not there but we had new faces in which was great. One was *name* (very loud, but limited movement after having a stroke) and *name

2* (very quiet, Parkinson's, lost confidence to join in activities as he has to go to the toilet often). I felt so happy that Jim was there following my interview. He turned out to be the best player. Anne was getting annoyed and teasing him because he was so good, trying to get him off his game as he was on the other team, and Jim pretended to throw a ball at her- that got everybody laughing. There was good banter!

- Buddug played again today…last week she didn't fancy coming as she didn't feel up to it, but she did, and she was glad that she did as she enjoyed. It was the same today, Buddug felt like she couldn't because she has problems with her hands etc. but she decided to join and yet again she was glad that she did. I think it makes her happy as she had limited movement with her arms/hands, so knowing that she could still take part possibly made her forget about her pain or whatever?
- The only 'down side' I thought was that not a single staff member was with me. I was fine and it made me feel like they are comfortable with having me there, and that they trust me, but I did feel like it was a big responsibility…what if somebody would have fallen? There would be no staff witness. However, the staff looked very busy and maybe there was something going on. Although this isn't a research visit, I feel I should be covered by the same safeguarding and lone-worker policy approved in my ethics so I will mention this to the manager on my next visit.
- On the way home I felt so good, happy, and proud of myself for giving my time to get people moving and have fun. It feels very rewarding to know that I have made someone smile and laugh today.
- No session next week, returning 19/06/19

26/06/19

- I was greeted before I even rang a bell by the manager who thanked us for coming
- As we walked through we could see the staff recruiting residents already, which was great, so we could start promptly and I didn't have to go around finding people to come and play
- There were already some residents in the main lounge, as their unit was getting painted.
- I helped myself to the activity equipment room to get the Boccia set and the hoops
- 10 residents came today (all women) plus Ella, plus a member of staff who came back and forth to play, and we also included the lady that was working in the shop at the home. It was great to include more than just the residents. About 11am a relative came to see one of the residents and she joined in too, it was great as you could see her encouraging and praising her mother in law and she also enjoyed throwing the ball herself.

- **Wow, I was surprised to see the residents mixing with residents from other units…it showed that they don't see each other unless they do activities because two ladies had a 'catch up' and asked about each other's families. This shows the social benefit of doing physical activity.**
- One resident who was already sat there didn't want to join in but enjoyed watching which was fine, she was awake throughout the hour and I did offer her a ball to throw on more than one occasion but she kept refusing.
- We had two teams of 6 (Liverpool v Everton) and we began by playing with the jack, which got very competitive and we had to have to deciding games because of Anne! Anne (resident) was so much fun. She was teasing the other team and trying to put them off and others from the other team was giving it her back "we are the winners, we are the winners!" It was great. The blue team won.
- We were very noisy and everybody enjoyed. I think this is important for Anne because she is very loud, but is very limited to watch she can do following a stroke, so I think it's nice for her to be able to throw the ball and take part.
- After playing 10-12 games with one balls each, I then laid down the targets. This was fun once again.
- Although a member of staff kept coming back and forth and was pulled out to answer the phone etc., I did feel again this week that I would like more staff to take part and get involved, because it is a fun time for them too. However, I do believe that if we would have had much more there then it would have been hard because it is not a large room, it can fit 12 comfortably but not much more, and also we wouldn't have enough balls!
- I was glad to see some of the residents that didn't come last week there today as it showed me that they do enjoy it. I felt a bit that maybe they didn't want to come last week because they didn't enjoy it…but they were just feeling poorly.
- Ella (one of DementiaGo's community class participant) also enjoyed herself. I think she feels 'normal' there helping me and also she is good with the residents too, making them laugh. She must feel a sense of accomplishment when going day, knowing that she has made people smile, just like how I feel.
- When I was going today I was thinking of telling them that I couldn't go there the next two weeks because I have too much work and that I will away on one week, but after doing the session, I changed my mind as I really did enjoy it and I know that the residents did too. Therefore I have decided to again next week, but won't be able to the following week as I will be away. That then will be the end of 6 weeks, unsure if I will continue? I said six

weeks because that's how long we expected the DementiaGo staff to be off, but it looks like she will be off work for longer, so we will see.

- I was invited once again to go to their dementia unit opening day on the 12th of July
- What I also realised whilst there was that the doors to go outside to the garden was open. The garden looked very inviting with umbrellas opened on the tables. It would have been nice to do the Boccia outside with them as it was so sunny, but I don't think it would have been ideal. Maybe another activity could have been done outside. Also, I feel like I should only do Boccia as that is why I have said that I have been coming there, other staff should do the other activities in my opinion.

Moving Moments Workshops 2019

Reflective piece- following Moving Moments Workshops on 4th and 5th of Feb, 2019.

- EQ (DementiaGo project manager) and myself have felt that it has been challenging to communicate effectively with the care home staff and managers via emails- staff not responding to emails, maybe the managers not passing messages on? However, because of this, EQ decided to email staff to their personal/work email (with consent from the staff who shared their email addresses) in case the managers did not pass on messages and information. An example of our frustration was that staff from one home went to the wrong venue. This meant that they were an hour late to the workshop and had missed the beginning of the workshop. This was very frustrating for EQ as she had sent more than one email to all attendees with information including dates, locations, time and names of staff attending each workshops (so it was clear where they should be and on which day).
- Staff member from one residential home did not seem to be aware of the sports week go for gold activities which each home was challenged to complete with their residents. However, this member was aware of the County Sport day but this shows again miscommunication within the homes. I felt that all staff should be aware of both the sport week and the sport day itself and all staff should have got involved/contributed in some way.
- I was happy with the turnout- around 30 staff attended the workshops between both days, and there was a representative from each Gwynedd council residential home which was great as this did not happen in last year's workshops.
- EQ felt that the workshops were more successful than the 3 workshops held in 2018 (I was not there). Staff were more ready to get involved in discussions etc. We believe that this was due to that sport week had occurred and there have been a number of task force group

meetings in Porthmadog….It felt as if they understood more about the aim of the project and were more involved.

- The staff did not realise how much their residents or themselves (staff) could do → not every staff member got involved with the organising and activities and thus some staff felt that it was all down to them/a lot of work/pressure etc. However, I felt as if this will be easier this year as more staff want to get involved as it is something to be proud to be a part of.
- When discussing the sport day that was held in September 2018, It was really obvious for me that all the staff had enjoyed the day and had fun (after the stress of preparing for it…getting everybody ready and organising transport to the venue etc) . They were all very proud and competitive!
- (Without being offensive and stereotypical) 'Healthy living' may still be a challenge? EQ and I thought it is a challenge to motivate the staff to then motivate their residents. What I mean by this is that the staff should be role-models for their residents, encouraging movement and healthy living. However, in one of the workshops, all off the staff had fizzy drinks (only DementiaGo staff had water bottles) and during lunch time some went to McDonalds and brought back unhealthy snacks for the afternoon etc. crisps, although EQ had brought enough fruits. (I am not saying or suggesting that all staff are unhealthy, but it was a point that DementiaGo staff noticed). Similar in the workshop the following day→ fizzy drinks! This made me feel that maybe staff should be educated about healthy lifestyle also, and the benefits/importance of a well-balanced diet etc.?
- Staff from one of the homes that I will be visiting and including in the research had no idea that I will be going there. Yet again I found this frustrating as they should know. All managers are aware as I have met with them during their monthly meeting with their area managers, where I explained the researched and which homes I will be visiting to collect data.
- I was surprised with some feedback received from staff:

1. Some relative would not want their family member to take part in physical activities or moving more in case he/she would fall.
2. Some relatives would not want their family member to move more and improve physical function in case they would improve so much that they could end up back home!!
3. One resident thought that the activities were childish. Very interesting and important point/ this gave me ideas of different/less childish activities e.g.
   a.) Darts→ throw at a target with different scores/points (similar to what we do with targets for Boccia in DementiaGo community classes)

b.) Hockey → dribble with ball (with a real stick and real hockey ball) a certain distance or around a cone

➔ Shoot for goal (similar to penalty shoot-out which a lot of residents enjoyed doing in the sport day)

c.) Golf → some putting activity with a real iron putter and golf ball (not plastic)

d.) Netball → throw ball into a net.

Why don't we go into the garden – Workshop organised by DementiaGo, run by Step Change Design

These workshops for care home staff were in June, 2019. Unfortunately I am unable to collect data and include this in the evaluation (no time to see what impact/how beneficial the workshop has been in the homes)

17/06/19 (9:30-1pm)

- Eight staff
- Only three homes represented
- Staff were challenged by Mark (Mark ran the workshops) as to why their residents don't go into the garden as much as they could/should. Shared ideas and made them think about using the garden in a different way.
- We need to change the way we look at stuff regarding health and safe/risk assessments. E.g. ironing. Instead of doing risk assessment for the iron, we should do risk assessment on how the residents can iron safely (so we are not eliminating the activity, but instead assessing and thinking of how to do the activity safely)
- Pull don't push – pull people outside rather than push them outside. Activity breeds activities etc.

18/06/19 (9:30-1pm)

- Only five staff from three homes attended
- Disappointing number of attendees. One of the homes' manager mentioned that this could be due to a clash, there is another Dementia workshop/training…highlights the miscommunication with in Gwynedd council trainings

The response to these workshops were poor, with staff not even responding to emails from EQ. Unsure how much the messages get passed on to staff from managers because on Friday (14/06/19), EQ asked one residential home manager in the boccia league if she had managed to get any staff to attend the workshop, she responded 'no'. However, when EQ asked a staff member from the same home if she was going to attend the workshop, the staff member said that she didn't know anything about the workshop and that nobody had let her know. This shows that the manager hadn't let the staff know!

Thematic analysis process

- Very time consuming…it is a big process! Transcribing interviews took time but this process also takes time; reading transcripts and coding, re-reading, re-coding
- I decided that I would do a document with tables with different codes, and quotes to support
- Began this and this also took ages as I was going through transcripts again and adding quotes into relevant tables. I felt like I was wasting time, I emailed KAS (supervisor) to ask if she thinks I was wasting time, she replied by saying she thought it was a good idea and that it could become very useful during the next steps of the process…looking at all of the codes so far and begin looking at the bigger picture
- Have mixed feelings during this process: feel proud that I have gathered the information and showed me how much work I have done so far, and also made me feel un-confident an doubt myself, for example…am I doing this the right way? Am I wasting time? How do I know if this is a potential code?
- I read books on thematic analysis to help me. They helped me with the first steps but didn't help me with determine what I counted as a code/theme.
- I felt like I needed a lecture on this point…it is quite lonely doing it all by yourself and not knowing if you're doing it right
- I decided to quickly meet up my supervisor after doing the tables just to make sure I was on the right track and ask what I should be doing next. KAS suggested that I stepped away from the analysis process for a bit
- I soon returned to the process and KAS was right, it was good to step away and have a break from it for a bit.
- Looked on tables and decided potential themes from all tables. Began putting them down on flipcharts
- Cut down themes slowly, adding sub themes into potential themes

- Five flipcharts later, I have my final four identified themes. Feel confident and proud of what I have achieved to have reached this part
- Supervisors were happy with my final themes and theme names
- I shared identified themes with care staff at task force group meeting, all agreed with what I had discovered

As demonstrated in the reflective pieces, it is clear that the researcher's confidence has grown during the research process. It should therefore be acknowledged that conducting the research and being involved with DementiaGo has had a positive personal impact on the researcher as well as on the residents, staff and relatives.

Thematic analysis

Thematic analysis identified the following themes from the interview data and the researcher's supplementary field notes/personal reflections: (1) in the moment and beyond: (2) personal impact on quality of life: (3) barriers to overcome: and (4) moving forward. These themes and incorporated subthemes are presented in Table 8.

Table 8.

Identified themes and subthemes from the thematic analysis

Theme	**Subtheme**
In the moment and beyond	
Personal impact on quality of life	• Physical benefits of participating in physical activity • Psychological boost • Conversation catalyst
Barriers to overcome	• Physical health • Perceived negative attitudes • Care home culture
Moving forward	• Practical training • Staff rotation • Inclusive activities • Lack of understanding of the aims of Moving Moments • Facilitators

In the moment and beyond

This theme regards to DementiaGo's sports day during the Go for Gold sports week that took place in September 2018. This day was what the residents had been preparing and practicing for since DementiaGo set the challenge for the residential homes. The memories of that day remained with the residents for much longer than the moment/day itself. During interviews with residents, staff and relatives, it was clear that the day out at their local leisure centre, competing with other residential homes from their area, had created a long-lasting impression on the residents, for longer than the day itself. One care staff commented,

> "I was going on holiday the day after and when I came home they were still going on about it." ST09.

Similar for other residents that also attended the sports day, a relative commented that the topic continued to be brought up for a long time and the residents continued to collect memories from the day.

> "…the people who had gone to the DementiaGo with him, they had such a good time they were talking about it for long and they used to say 'do you remember that day we went to the DementiaGo' and 'do you remember this' and 'do you remember that'…Oh for months after they were still bringing the subject up to people who were here, they kept collecting memories from the day because he was going around with his medal." FAM08

One resident in particular was referred to in more than one interview, it was clear that the sports day had stuck in the resident's mind for much longer than the day itself.

> "Poor [name] used to walk around with the medal around his neck, and showed the trophy to everyone who came through the door for weeks!" ST11

The same resident's relative commented:

> "He meant the world of the medal and he was showing it to everyone, and one of the best things that he had ever done was having the medal and winning the shield to bring back, and he carried it the whole way on the bus, and he showed it to everyone. He would wear the medal if there was anything going on…Christmas meal, or anything that was going on the, the medal had to go around his neck. **When my Dad died, he wanted the medal to go with him in the coffin**." FAM08

Receiving a medal for participating in the sport day was clearly a significant contributor for residents remembering the day, offering validation.

> "Last year it was really good that was, and we all thoroughly enjoyed it, we really did…and of course we got medals! Which was even better!" RES03

The fact that the sport day remained in the residents' memories for longer than the day itself suggests that organising day outs where residents from different residential homes come together to take part in physical activity brings a lot of fun and enjoyment to the residents. This is important as it is evident that one day such as the sport day can have a substantial impact on the residents as it provides opportunity for residents to reminisce for longer than a short period of time. Furthermore, the fact that they may have something to feel proud of after taking part and competing, may contribute to the residents remembering the day for months after. It can also be suggested that the impact of days similar to the sport day go beyond the moment itself as the experiences from the day expands further than within the homes. The residents told their families about the day which possible gave the relatives a sense of satisfaction knowing that their loved ones are having fun and are happy.

Personal impact on quality of life

It was identified that DementiaGo had a personal impact on the quality of life for both residents and staff.

Physical benefits of participating in physical activities

Some staff talked about how the project has motivated them to move more themselves by attempting to become more physically active… "I do try to do more exercise." ST01. Two staff commented on how they have joined physical activity classes, one being karate, and the other:

> "I have started aqua aerobics…I have been twice. It is quite good actually." ST02

The fact that staff are undertaking more physical activity themselves suggests that the Moving Moments project has increased the physical movement of staff as well as residents.

Participants referred to physical activity as being beneficial for the body,

> "If we can get somebody involved in physical activity then it's going to help them standing, walking etc. and getting about in general." ST03.

In regards to residents being able to getting about the home in general, this would suggest that physical activities helps residents to complete activities of daily living, in turn reducing the need for as much help from the staff. Another staff member commented on how physical activity "keeps them (residents) more agile" ST10. The physical impact of physical activity was further mentioned

by a relative, who commented that moving is important as "someone sleeps better, eats better, and someone's life is better." FAM04. This would suggest that physical activity contributes to an improved quality of life.

One resident talked about how she would love to do more of the skittles game in the home. The resident commented,

"It benefits you, even though these arms are hurting, it benefits you after." RES09. This suggests that some residents have a positive perception of physical activity as they know that some activities may be a little painful, but will also benefit them.

In contrast, a relative talked about how her Dad articulated he was in regular pain, but the sports day appeared to either distract him from the pain, or possibly even reduce his pain.

> "Dad was one for moaning that there was a pain there, a different pain somewhere else, he was one for moaning I have to say that. He used to moan that there was something different wrong with him nearly every day, but when he went to this DementiaGo [sports day], the pain and the moaning…well there was no mention of anywhere hurting, he didn't say that anything was wrong" FAM08.

This would suggest that physical activity is a distractor of pain, or, perhaps the resident complained about pain daily as he could simple be bored and expressing pain could attract attention.

Similarly, a staff member mentioned how another resident who has Parkinson's disease benefited from DementiaGo,

> "When she does something [physical activity], she is perfect" ST10. ['Perfect' referred to the resident shaking less and having more control over her movement].

Psychological boost

A psychological impact on both residents and staff was identified from the interviews. Staff talked about how doing physical activity increases the residents' confidence, "it's a boost of confidence isn't it…" ST03.

Another staff commented that "it shows them that they can actually do it too." ST07. This suggests that residents are unaware of their capabilities in regards to physical activity and they were likely able to do more than they thought they could. Following this, residents' feel "happier in themselves…and they have done/accomplished something." ST10. Taking part in physical

activities therefore gave residents opportunities to accomplish tasks and challenges; possibly giving them a boost for the rest of the day. If residents would not have taken part in physical activity, perhaps they would have been sedentary most of the day with no real sense of accomplishment.

The confidence of staff had also grown since the project started. Most staff talked about not feeling confident standing in front of residents and doing physical activities with the residents, e.g. light exercises or Boccia, because they felt that they were a little bit out of their comfort zones. However, since the Moving Moments project has started in the homes, where staff have been attending workshops and events such as the sports day, some staff feel like they have gained confidence.

> "Confidence…it is only now I am starting to find it after all those years [of working in the home] after being on the courses [DementiaGo's workshops]." ST09

Similarly, another staff member from a different home commented on how attending the sports day meant that she had to join in and get involved with the activities. The staff member mentioned how nervous she felt about going to the sports day, as she was apprehensive of what was going to happen as it was the first ever sports day, but the staff went on to say how she felt that she had benefited from going. The fact that the staff member was apprehensive about going to the sport day and had not much choice apart from going with the residents meant that she was pushed out of her comfort zone; proving to be beneficial in the end. Perhaps other staff who lacked confidence with the physical activities side of their job could benefit from being encouraged to spend time outside of their comfort zones more often.

> "To be honest I am quite shy, I am a bit shy, but this benefitted me…because I have had to haven't I, well 'have to' is not the word, but I have had to go with them (residents) in a way (to the sports day), and I have had to join in, so yes, it is good. It is good for your confidence as well isn't it…my confidence has grown." ST13

Furthermore, taking part in physical activities and gaining confidence was thought by staff, residents and relatives as a 'boost', which was also referred to by the Welsh speaking participants as a 'hwb', the Welsh word with a similar meaning to 'boost'. For staff, some felt like doing physical activities and getting involved in events gives them a boost at work, possibly making work more enjoyable as they got opportunities to do activities that are not all task-based. This would suggest that taking part in physical activities can contribute to an increased job satisfaction.

> "it gives you a 'hwb' at work as well with them [residents] you know…It has been good for us [staff] as well you know." ST02

Similarly for the residents, a relative commented that she thought that doing physical activities "gives her [her Mother/resident] a boost." ST03. This is agreed with by some residents who found taking part in physical activities as motivating to do more,

> "It gives you a 'hwb' doesn't it, to make more of an effort." RES12

A relative commented on how accomplishing activities can make residents feel proud of themselves, providing them with an opportunity to be independent. Referring to the sports day and how residents may feel when moving into a home, the relative commented that,

> "as you go older, you have to come into a home…everything is done for you isn't it, and I think maybe there isn't a lot of stuff you do that makes you feel proud? Like proud of the achievement that you have done, and I think that that [sports day] had made him [Father/resident] so proud of himself, that he had brought the shield back. He said that he felt like an Olympian!" FAM08

The same relative described how much the day meant to her Father:

> "On part of Dad, he had been very pleased by going to the DementiaGo [sports day], and he was so, so, so proud of himself…that he had taken part, that he had got the medal, that they brought the shield back, and for the whole time from September until January [the resident sadly passed away in January], one of the most important thing that he had done was go to the DementiaGo [sports day]. So I do think, yes, yes it had benefitted him extremely…he had learned that he could still do something, he was still able at 97 [years old], that he was still able to win, and still able to bring something back into the home…" FAM08

Taking part in the physical activities and attending DementiaGo's events confirmed to some residents their feeling of sense of purpose, and that they meant more to the staff than just being cared for. When the researcher asked one resident why he thought it was important for events such as the sport day should take place, the resident commented:

> "It shows you [residents] that the home *cries* thinks something of you." RES12

The fact that the residents feel proud and have a sense of purpose following the sport day suggests that there isn't much opportunities in the home for them to feel proud of. Perhaps days out and competition with other residential homes should become more of a regular importance in the homes as the benefits on both residents and staff is evident in this study.

Conversation catalyst

It was evident from the interviews and supplementary field notes/personal reflections that taking part in the Moving Moment project had a positive social impact on participants. In all homes included in this evaluation, physical activities occurred within the units in the homes (unit refers to smaller sections of the homes, such as smaller lounges that consists of around five to eight residents), as well as in the homes' 'main lounges' (bigger/communal areas of the homes), where activities such as Boccia took place. By doing physical activities that consisted of residents from all units coming together, it enabled residents to see other residents from other units that they may not have seen unless there was an event/activity happening in their 'main lounge'. One staff commented that mixing together reduced isolation,

> "They can mix with others, stops them from feeling lonely…everybody mixing together and getting along with each other." ST12.

This suggests that residents feel lonely unless they move around the home to see others or take part in activities. Some of the residential homes had been organising Boccia events with other homes, which enabled residents and staff from other homes to mix with each other. A physical activity event like this turned into a social event too, as the homes took advantage of the opportunity to make the residents' experience last longer, by making afternoon tea for the residents following the games.

> "We have another home, [home name] coming here on Monday to play Boccia, and we are going to make an afternoon tea for them after playing." ST08.

The social impact of mixing with others was also evident from the sports day,

> "Everybody was together…I thought that was good to tell you the truth." ST02.

Another staff commented on how the residents enjoyed being with other people in the sports day,

> "They [residents] met new people, some of them recognised people they knew before coming into the home, and some of them were chatting with other people and enjoying." ST11.

Similarly, one member of staff talked about how they had begun taking residents to DementiaGo's community class (a physical activity class with people in the community, followed by a cup of tea), which is held locally once a week.

> "It [attending the community class] brings them together and they get to see other people. They become a part of the community as well actually, you know, they feel more normal I would say…**they are not just old people are they, they are people.**" ST13.

Another social impact identified from interviews and field notes was that doing physical activities can start/encourage conversations to take place.

> "I can guarantee that by the end, doesn't matter what the activity is, they laugh and talk more." ST07.

Furthermore, the researcher's field notes from a Boccia session at one home demonstrated how doing physical activity in the homes' 'main lounge' brings residents from all units together, stimulating communication. As everybody began entering the room, one resident saw another resident from another unit and commented on how she hadn't seen her for a while. The conversation between both residents continued to flow naturally, asking each other how their families were etc. Without Boccia taking place on that day, it is possible that that conversation would not have happened as they would have more than likely stayed in their own units.

> From field notes/reflection- 'wow, I was surprised to see the residents mixing with residents from other units. It showed that they don't see each other unless they do activities because 2 ladies had a 'catch up' and asked about each other's families. This shows the social benefit of doing physical activities'

Moreover staff commented on how the sports had encouraged conversations for weeks,

> "It gives a talking point doesn't it as well" ST03

Staff described how DementiaGo had got them talking more with residents whilst doing physical activities, providing a valuable quality time together. Staff believed that this strengthened their relationships with the residents.

> "You get a better rapport don't you…you get chatting more whilst doing it." ST04.

Another staff commented,

> "You get to know them a little bit more, yes, definitely…it's like a team building kind of thing." ST01.

Doing physical activities in the homes also enabled residents to see another side to staff too, away from the day-to-day tasks of care provision.

> "They get to see a fun side to staff as well…I think that puts them at ease and relaxes them more so we get more out of them as well." ST08.

Referring to the sports day, it was clear that staff and residents learned more about each other. A number of staff described how their initial (low) assumptions of their residents' abilities were challenged by what they saw.

> "A lot of them [residents] could do much more than what I expected, I was shocked. They were brilliant!" ST07.

Staff also commented on how they got to see a competitive side to some residents that they may have not seen before,

> "We didn't think a lot [of residents] could do that [the sports day challenges], but on the day, oh wow, some of them were so competitive!" ST08.

Not only were the staff surprised with the residents' abilities, some of the other residents were too.

> "These girls, or women [residents] I should say…I didn't think they could do as much as they did…kicking a ball to get a goal, I never thought that they would do it to be honest with you." RES12

The fact that staff and residents were surprised with the residents' capabilities suggests that they are able to do more than the staff and themselves think they can. Perhaps staff have been helping residents with activities of daily living when they could possibly do more for themselves.

The quality of life of those involved in Moving Moments were positively impacted as the project had increased physical movement of both staff and residents. Some staff members reported becoming more physically active and residents benefited from moving more as they were perceived to have become more agile; enabling them to perform activities of daily living for longer than if they would not move as much. Being able to move more is suggested to increase the residents' confidence and provides a sense of achievement. Further, taking part in physical activities offers opportunities for conversations with others to occur, which all contribute to a better quality of life. Moreover, staff confidence was an apparent importance and therefore the opportuinities offered by DementiaGo and upskill staff, increase confidence and therefore perhaps contribute further to a happier environment in the home. Therefore, it is suggested that Moving Moments positively impacted the quality of life of all in the home.

Barriers to overcome

Staff, residents and relatives described a number of potential barriers they perceived as preventing residents from taking part in physical activity. Within this theme, three subthemes were identified.

Physical health

The first subtheme related to physical factors that were perceived as being barriers to physical activity. One of these physical factors included pain. A relative commented:

> "She [relative's Mother/resident] doesn't move enough but I know why…because she is in pain with every step she takes." FAM07

A resident also commented on how she experiences pain in different parts of the body, which limits her ability to take part in some activities. When asked where is most painful, the resident commented:

> "Arms and hands, I wouldn't be able to stand to do it either." RES04

Another physical factor that came up in all interviews was illness and tiredness.

> "Illness more than anything, depends on their illness/condition and if there are side effects with medication." ST03

One resident in particular could relate to the side effects of medication as being a barrier, as one of the resident's medication has led to the resident not wanting to go out of the home to the DementiaGo community class, although the resident would like to go:

> "I take diuretics. They make me to go to the toilet every minute. It is a problem when I go somewhere." RES12

Other physical barriers included co-morbidities and other health conditions:

> "I don't move enough, to tell you the truth, because I suffer with Parkinson's and that limits me extremely." RES04

Another resident commented:

> "I used to be [active] until about half a year ago. This Parkinson's has had its toll on me, it has taken over my life." RES12

One relative also talked about how eye sight/visual impairment is a barrier to doing physical activity. The relative talked about how her Mother doesn't take part in physical activities as she can't see.

> "She is registered blind which is not always picked up on I don't think." FAM01

It would appear that physical activities in the homes are not inclusive for all to participate in.

However, the same relative commented on how her Mother is still able to move independently with her walking frame, suggesting that she is still able to do some physical activity although her poor eye sight.

> "She [Mother/resident] calls her exercise moving up and down the corridor, you know, walking up and down the corridor…and she might be able to go right to the other side." FAM01

Perceived negative attitudes

The second subtheme related to what residents, staff and relatives perceived as being psychological barriers to taking part in physical activities. This revealed attitudes towards age-associated capabilities featured for some individuals.

> "I have gone too old to do much." RES06

Similarly, a relative commented:

> "We have to remember that she [Grandmother/resident] is 96 [years old] as well…she is actually old isn't she." FAM03

However, one resident demonstrated that age wasn't a barrier as he took part in the sports day at 97 years old and felt like an "Olympian". FAM08

Residents' perceived attitude was identified further in the interviews, as some of the staff interpreted that some residents believed that they shouldn't have to do certain activities for example make their own cup of tea:

> "They are in a place where they think that they have done their share over the years and stuff. The ability is there [to help staff lay tables] but they have the attitude of 'you get paid to do it. You should do it for us'." ST08

One relative was also seen as demonstrating a perceived negative attitude towards physical activity:

> "I understand where you're coming from and that you want physical movement, but it's not always the right thing…she [Mother/resident] just wants a peaceful life." FAM01

Staff also talked about how the residents' mood can impact the residents' choice to take part in physical activity:

> "I think it depends very much in the mood." ST01

Staff found motivating residents to take part challenging and a hard job:

> "Some of them [residents] just can't be bothered to be honest." ST05

The staff commented on how they can't force the residents to take part and therefore the residents' choice/personal autonomy can be a barrier.

> "If they don't want to then they don't want to and that's it. You would ask a certain amount of time you know, but it is their choice." ST01

Another staff commented on how "some [residents] just want to sit and watch television, or read their newspaper." ST13

The fear of moving around and falling was a significant barrier for some of the residents.

> "I could move more I think, but I have had terrible falls and have hurt myself with them. You lose your confidence, and your balance of course." RES04

Another resident commented that due to having Parkinson's:

> "I have become scared of falling." RES12

A relative also commented:

> "I think now because she [resident] has fallen so many times, I think she associates moving with falling." FAM02

The fact that some residents' feel that they are too old to do much suggests that they don't believe in their capabilities to do things as much as they did before, at a younger age. Age is clearly not a barrier to taking part in physical activity as a 97 year old resident took part in physical activities and had pleasure from doing so too. This suggests that residents are still able to accomplish achievements, regardless of their age.

Moreover, the fact that some residents, and some relatives too, perceived that residents have worked hard enough over the years and deserve to rest and put their feet up now suggests that this mentality stops residents from doing activities and tasks around the home that would bring about physical movement. For example, relaxing and letting the care staff make the residents' cup of tea means that some residents are missing opportunities to be physically active. Being more physically active would suggest an increase in residents' confidence in walking and perhaps decrease risk of falls. Perhaps some residents who associate walking with falling may benefit from some cognitive

reframing and balance exercises so that these residents continue to be physically active and don't avoid walking.

Care home culture

The third subtheme of barriers was care home culture. This subtheme regards to the everyday life of the homes that can sometimes be a barrier to conducting physical activities with the residents. Staff talked about how every day is different in the homes, due to various reasons such as unexpected events which sometimes must be prioritised before physical activities. This makes it hard for the staff to organise and plan ahead physical activities in the homes, therefore the staff take every day as it comes. Staff referred to themselves, staffing, as being a barrier at times:

> "We have to slot it in [physical activity] whenever there is time really…Health and safety must come first." ST08

The fact that the staff have to 'slot it in' suggests that physical activity is not considered as being an important part of the day; conducting physical activity is just additional work for staff to conduct on top of prioritised tasks. Moreover, the fact that physical activity is not an essential part of the day suggests that staff lacking confidence perhaps choose not to make time for physical activities in the day. The impact of this could be that those staff who don't feel confident in leading physical activity don't push themselves to get out of their comfort zone.

A staff commented that when the home is busy there is:

> "lack of staff to lead [activities]…not as such lack of staff here, but like I said earlier, something going on maybe, somebody not well, paper works needs doing and stuff." ST11

Also referring to staff, one manager commented that some staff don't have the confidence to do physical activities with the residents:

> "There is a lot of staff who are nervous of the activities side because they have to take the lead, and they haven't been trained how to." ST08

The busy day-to-day environment of the home and low confidence of some staff to conduct physical activities with the residents suggests that where possible, allocated time should be implemented in the day for physical activity, which would be beneficial for residents as well as staff, as their confidence and experience in leading physical activity would increase. However, the fact that lack of time and staffing issues can be a barrier to taking part in physical activities suggests that staff and residents associate physical activity with exercise that needs to be lead only; such as a 30 minutes chair aerobics session. Therefore, staff may need to encourage residents to be

physically active in other ways, such as helping to lay the tables and water the plants. The impact of this could perhaps mean that some of the staff workload is reduced, and residents are physically moving without having to depend on staff to lead on physical activities.

Some staff, from the same home, also referred to the home's outside physical environment as being a barrier to going outside and using the garden:

> "It's not easy to get around this garden…I do think the garden needs to be a bit more age friendly, it's very uneven there." ST05

However, the other homes did not regard the garden as being a barrier to physical activities. Furthermore, the inside physical environment of all homes were not regarded as being a barrier to physical activities due to their long corridors and large 'main rooms'.

The presented subthemes above highlights factors that contribute to the prevention of physical activities participation. The subthemes fit together under the overarching theme of 'barriers to overcome' as they all present potential barriers to taking part in physical activities that could be addressed to a certain degree, leading to overcoming barriers and encourage maximum involvement in physical activities.

Moving forward

This theme incorporates views of staff, residents, and relatives of practical issues, suggestions for project improvement, and the staff's perception of factors that contribute to physical activity participation. These views can be used to move the Moving Moments project forward in the future by addressing the issues and implementing improvements. Within this theme, four subthemes have been identified.

Practical training

The Moving Moments workshops for residential homes staff, run by DementiaGo, educated the staff of the importance of moving and physical activity for residents, along with its associated benefits. During the workshop, ideas were shared about different physical activities that could be done in the homes. However, the need for further practical training, demonstrating to staff how to do different activities, was identified in the staff's interviews. According to the staff, there has

been no recent training, other than DementiaGo's workshops, on physical activity for the residential homes staff:

> "Not for years really…I think I did a chair exercise course about 10 years ago in Wrexham, through Age Cymru, and that was when they started to implement activities into homes." ST08

The fact that staff have not had any physical activity training for years suggests again that physical activity is not one of the residential homes' priorities.

The staff talked about how they would like more support with instructing physical activities:

> "I would like more support…someone who would actually come and show us you know, even some exercises sitting down…" ST01

The safety of residents was a concern for most staff as they explained how they were worried of doing an activity that would hurt a resident.

> "If someone had problems with their knees for example, how can you motivate that person to move more without hurting them." ST01

A staff member suggested:

> "If someone came in and showed you [staff] more, because…you have ideas and you can say 'lift your arms' and do light exercises, but if someone learnt…because I am no sports teacher am I, so if someone came in to show you how to do it with them, and that they [residents] would be ok." ST13

In contrast, one staff member suggested that there is no need for practical training:

> "You don't really need to learn how to do some things with them." ST07

However, it was clear that not all staff are confident in conducting physical activities:

> "A lot of staff are nervous of doing activities because they have to take the lead and they haven't been trained how to." ST08

Further, the residential home manager commented:

> "I have always thought that it would be nice to have an activity co-ordinator to go around the homes, even just one shared between the homes, once a week, increasing confidence and settings tasks for staff to carry out." ST08

The fact that the staff would like more support suggests that conducting more physical activities is something they want to do, but they don't feel confident enough in leading certain activities. The fear of hurting residents is apparent due to their lack of knowledge and understanding, which is down to lack of training. The staff appear to be wanting to learn how to so physical activities safely with the residents, which suggest that they are aware of the benefits of being physically active. This suggests that staff see doing physical activities as worth doing as they are interested to learn how to conducting physical activities safely; if they didn't see it as something worth doing, they possibly wouldn't want to learn.

Staff rotation

The need for staff rotation was identified by staff members, in regards to attending DementiaGo's workshops, events (such as the sports day), and the task force group meetings (meeting between the DementiaGo team and the residential homes staff). Some staff felt that they were not as much of a part of the Moving Moments project, and the physical activities side of work, in comparison to other staff members:

> "I think it should be shared…not the same staff…it shouldn't be the same group all the time." ST05

This suggests that some staff members feel that they are missing out.

Similarly in another home, a staff member talked about how she hadn't yet had the opportunity to attend the sports day or the workshops:

> "I haven't so far, I haven't had the chance…Everybody to have a chance in their turn I thought." ST10

The fact that not all staff members have had the chance to attend Moving Moments' activities suggests once again that some staff feel that they are missing out, and that some staff have an advantage when conducting physical activities as they have been educated in the workshops and have more experience. This suggests that all staff should be encouraged to attend workshops and other activities in order to gain experience and increase their confidence in regards to conducting physical activities with the residents.

Getting involved with external activities outside of the home gives staff a break from doing the in-house tasks. Referring to physical activity events outside of the home, a staff member stated:

> "It's a fun time for staff to enjoy with residents isn't it, and if you're not getting the chance to go then you are left doing the tasks of the day, and somebody else is having fun…and it breaks up your work routine doesn't it." ST04

One of the residential homes manager acknowledged the need for staff rotation, in regards to attend DementiaGo's workshops:

> "I tend to choose the same staff because they don't mind doing it, but I need to encourage staff who are a little bit shy so that they can become used to it…so yes, so that the staff rotates and that they don't all get left under pressure, and also to increase their confidence." ST08

The fact that the manager has acknowledged the fact that the same staff are chosen to attend DementiaGo's workshop highlights the need to give equal opportunities for all staff to be involved. It is also suggested that the manager believes that attending the workshops increases staff confidence and helps to bring some staff out of their comfort zone, which could possibly lead to more physical activities being conducted in the homes by more staff members.

More inclusive activities

Activities should be inclusive for all levels of abilities and gender, so that everybody has the opportunity to participate. However, one staff member believed that some of the activities that are done in the home, with the equipment provided by DementiaGo, can be patronising and non-inclusive:

> "You've got to make it fun…not so much childish. I don't think the scarves [one of the equipment] with them waving their arms like that…I found it quite…what's the word…patronising I thought it was! Because men don't wave scarves around do they…it's not all for women is it." ST05

Following that statement, the researcher begun asking other staff members if they found the activities from the sports week (using the provided equipment from DementiaGo) as childish or patronising. Not all staff agreed:

> "No, no way, no I don't think so, genuinely it was good." ST13

One resident explained why she doesn't take part in activities, such as Boccia, in the home:

> "I don't take part because it wouldn't challenge me enough would it, in here, it would be just some way of passing the time." RES02

The fact that the resident would not find an activity challenging enough suggests that physical activities need to be tailored to all ability levels. Perhaps one type of physical activity could be conducted for people who would find that particular activity enough of a challenge, whereas another physical activity could be conducted for those who wanted more of a challenge.

Another activity that was suggested as being non-inclusive in one of the homes was gardening. A resident talked about how none of the resident are included in doing any of the gardening:

> "none of us do any gardening…one lady seems to enjoy doing it…one staff…there's not a lot to do there anyway apart from the pots, which she [staff] is in charge of really." RES02

This suggests that residents don't want to get involved in the gardening as it's already being taken care of from a staff member. The fact that the gardening is done by a staff member could suggest that residents don't feel that they are allowed to get involved; or perhaps the staff member does the gardening automatically as the residents don't seem to get involved. Staff should see the garden as an opportunity for physical activity and try to promote residents to help take care of the garden, keeping them physically active and bringing them outside to the fresh air.

Lack of understanding of the aims of Moving Moments

It was identified from interviews and field notes that there was some lack of understanding of what DementiaGo's Moving Moments' project aims were. The researcher's end of data collection reflection highlighted that participants tended to associate 'DementiaGo' with the sports day only. The sports day was only one day from the everyday challenge of bringing movement into everyday life of residents. When talking to a relative about the project as a whole, the relative automatically referred to the sports day.

> "he [Father/resident] had been very pleased by going to the DementiaGo [sports day], and he was so so so proud of himself… one of the most important thing that he had done was go to the DementiaGo [sports day]." FAM08

Moreover, it was perceived by the researcher that some staff were not clear of what DementiaGo expected from the staff. Some staff seemed to think that physical activity consisted of structured exercises only, such as chair aerobics, which the staff felt that they needed confidence to lead, whilst DementiaGo's aims was to bring everyday movement into life, including all kinds of

physical activities such as making their own cup of tea, Boccia, gardening, laying the table, chair aerobics etc. This suggests that staff and residents don't fully understand what being physically active means, and what the variety of forms that individuals can be physically active are. To address this, DementiaGo could enhance on the staff's understanding in workshops, where staff could then encourage residents to be more physically active without having to think of it as being a strenuous exercise. Informing the residents of the benefits of being physically active may encourage residents to move more; the thought of doing a cup of tea or gardening may be more appealing for some residents than participating in a chair based exercise session, and they would still feel that they are being physically active.

Facilitators

Facilitators to movement and taking part in physical activities were identified from the interviews. The simplest facilitator was personal autonomy of some residents. Some residents moved and went for walks by their own choice, not being prompted by staff.

> "A lot of them are motivated themselves, so you will see some walk all the way from the bottom to the top [of the corridors] because it's a long corridor isn't it… Some will just go and do it anyway." ST07

This suggests that those who want to move and be physically active will do so without having to be prompted by staff.

One resident talked about how going for a walk is a part of their daily routine:

> "I have to have a walk every morning…it is just an ordinary walk that I decide to go on, and hmm, I'll come back and sometimes I go again." RES03

Another identified facilitator to movement was the garden:

> "We've got a gentleman that really enjoys the garden and he makes full use of the garden, winter and summer." ST05

A resident commented:

> "I don't do anything in the garden, but I like to go out and see what is going on in the garden." RES03

Similar to the garden, one of the homes' shop was thought of as a reason to move:

> "There is a small shop in the middle, so some walk down there…those who can walk will walk down, and there is room for them to sit." ST11

This suggests that residents are more likely to go for a walk if there's a reason for them to go, such as something to see.

Staff encouragement was another facilitator to movement. The staff described different techniques of encouraging the residents to move and take part in physical activities.

> "We try and encourage everyone. We never put pressure, just encourage…and I will sit down and talk to them about how important it is, for example when we do light exercises." ST10

A number of staff talked about how residents may join in after seeing other residents taking part, and by making the residents feel like it is there choice to participate:

> "If you can get people to watch, they will want to take part later on. If you can make it their idea [to join in] rather than yours…their decision." ST03

This suggests that the staff know their residents well and take notice of what works to try and get more residents participating in physical activities. The fact that the staff try and encourage the residents to participate from their own will rather than seeing physical activity as something they have to do highlights the importance of respecting the residents' choice.

Changing the way the staff talked to the residents was another technique used by some staff when residents refused to take part:

> "perhaps go around it a different way or word it differently…or suggest that they help you, which in turn then makes them want to take part." ST03

Another member of staff commented:

> "Sometimes we take turns because if I talk to you today, you might not be in the mood to talk to me, so someone else will come and tell you exactly the same thing and you will do it." ST01

The fact that the staff go back to the residents who refuse to take part and continue to try and encourage participation suggests that staff try their best to get everyone involved and use a range of techniques that they have learnt.

Music was also referred to by staff as a technique to get residents moving:

> "If you put a bit of music on they love it!" ST07

Another staff commented:

> "There are people who love music, Dawns I Bawb [a local dance company] come here…that's what I like to do, get them moving like that with music and stuff." ST09

Family involvement was identified as another facilitator for residents who don't tend to take part. One relative talked about how her niece could motivate her Auntie to take part in an activity/event, such as the sports day, in the future:

> "She [resident] would jump out of her seat to do it with her [niece] I am sure!" FAM02

This suggests that residents' motivation may be increased with family participation.

The same relative commented:

> "I also think that they [residents] maybe feel safer as well, doing something with somebody they know."

Similarly, another relative talked about how her Mother would feel more at ease if her daughter would take part in an activity with her:

> "She [resident/Mother] would be happier to take part because I would be here to help and do it with her." FAM08

Another identified facilitator was children. One home had been involved in an intergenerational project with the local school, where pupils visited the home once a week to visit the residents and do activities with them. A staff member commented on how the children and the residents had been doing physical activities together, using the equipment provided by DementiaGo:

> "The school children come here, and they have been playing the parachute with the pompoms…they [residents] have a lot more fun seeing the different coloured pompoms flying everywhere, and the school children looking for them and collecting the pompoms, throwing them back in and stuff." ST11

The last identified facilitator was significant events, such as the sport day.

> "It [sport day] was fantastic, you know, it was a really good thing, even the ones [residents] that were a bit reluctant enjoyed themselves." ST01

The sport day brought everyone together from different homes which made the day for most participants. During the day itself there were many facilitators including the social aspect of the day, but also the support that flowed throughout the day. One staff member commented:

> "All staff mixed together…I know we were competitive with our own home, however, everybody supported each other and it was fun." ST11

The day saw resident taking part in activities by their own will, without having to be encouraged by the staff.

> "There was one lady here, I think she's in her 80's [age], kicking the ball to the goal…you know, it's nice to see them doing things like that isn't it, and wanting to do it and doing it, without us saying that they have to you know, it was nice." ST13

The staff and residents' satisfaction from events like the sport day suggests that they enjoyed participating together like a team, and that the residents and staff were closer together, sharing the fun. The fact that residents got the opportunities to do activities they possibly didn't think they would do again, such as taking a penalty kick, suggests that residents were reminded of their capabilities, as well as showing the staff what they were capable of. An organised event such as the sport day seemed to give the homes a focus, a goal, a challenge which they all worked together to prepare for.

The subthemes above present practical issues and recommendations that can be addresses in order to move the Moving Moments project forward. Addressing the issues, ensuring that each home are aware of facilitators and implementing improvements could further improve the delivery of the project.

Discussion

Summary of findings

This is the first study that has aimed to evaluate the impact of DementiaGo in residential homes on residents, staff and relatives. The results reveal the impact of physical activity participation on residents, including the memories of events remaining with the residents for a long time. The study also demonstrated the personal, as well as the social impact that DementiaGo has on staff and residents' quality of life. There are also suggestions of how DementiaGo could improve the Moving Moments project by addressing some practical issues identified from interviews.

Discussion of findings

A re-occurring topic in most interviews included the sport day that the residential homes had attended at their local leisure centres during DementiaGo's Go for Gold sport week. Staff and residents talked about how much fun they had by attending the sport day, and how much everybody had enjoyed the day. It was identified that all residents had enjoyed their day out, and returned to the homes talking about the day with other residents. However, the memories created from the day had stuck with some residents for much longer than the day itself. Residents kept talking about the day for weeks after, often referring to their medals and shield (for those who were on the winning teams). Each resident that was interviewed and had attended the sport day referred to the medal that they had received on the day. This could suggest that receiving something tangible and related to the day aided some residents to remember the day as they seemed to automatically associate the sport day with their medals. Perhaps another factor that contributed to residents remembering the day was that they had an opportunity to spend time with the staff outside of the home. As mentioned in Chapter 1, care tasks in the home often limits the scope for staff and residents to engagne in meaningful activities together (Ward et al., 2008), such as physical activities, and therefore going out for the day provided an opportunity for staff to have time to interact and build relationships with residents (Ward et al., 2008) which perhaps the residents valued.

The theme of 'in the moment and beyond' from attending the physical activity event was first suggested by MacPherson et al., (2009) where they found that people living with moderate to severe dementia experienced benefits 'in the moment'. This study suggested that the feelings of enjoyment and fun lasted longer than the moment/day itself. The sport day remained with the residents for the day itself, and much longer, especially for one resident who sadly passed away and was buried wearing his medal. This resident's experience also went beyond his personal experience as he shared the success of the day with the rest of the home by continuingly praising their achievement of winning the shield. Furthermore, the resident's experience from the way was clearly demonstrated by his daughter who talked about how this day had an impact on her Father for a long, long time. The daughter explained how taking part in the sport day made her Father feel like an Olympian, and as if he had played rugby for Wales. This demonstrated that the impact of the sport day lasted longer than the day/moment itself.

However, although it is suggested that the lasting impressions are formed from the sport day itself, which is one day of the whole year, the residential homes have been busy preparing for the sport

week during the year, practicing different activities. Therefore, readers should be aware that residents experience many days practicing for the sport day that could also reinforce lasting impressions of the event. Furthermore, during the week there are also in-house activities which take place that could also contribute to the residents' experiences and memories. Therefore this finding highlights the importance of regular activity in the home and opportunities to also get out of the home as it proves to provide some residents with rich, memorable experiences. Moreover, the fact that residents are busy preparing for the sport day and are regularly active during the week suggests that Moving Moments prevents the residents' from spending 97% of their days in a sedentary manner; as suggested that residents do by Sackley and colleagues in Chapter 1. Further addressing Sackley and colleagues' statement, conducting regular physical activities in the homes breaks up sedentary periods and provide opportunities for increased interactions between staff and residents; contributing to better quality of life of residents.

Perhaps one of the most valuable identified impact of DementiaGo is the personal impact that it has on both residents and staff. Since the Moving Moments project has started in the homes, it has made some staff reflect on their own physical fitness, leading to some staff becoming more active by joining new physical activity classes, including karate and aqua aerobics, in their own time outside of working hours. It is clear that staff and residents are aware of the physical benefits of doing physical activities, demonstrating that they have adopted a positive perception of physical activity since the project started in the homes.

An apparent important physical benefit from doing physical activities was that it can be a distractor of pain, or even reduce chronic pain for some residents. This supports Amrbose and Golightly (2015) who found that physical activity significantly improves pain and related symptoms. Not only is exercise beneficial for mild to moderate pain conditions, but people with more severe pain also benefits from physical activity as they may exhibit improved function and reduced pain also (Dobson, McMillan & Li , 2014; Wallis & Taylor, 2011).

Similarly, it was found that physical activity improved the executive function of a resident who had Parkinson's disease. A staff member (ST10) described how this resident was 'perfect' when doing physical activity. In support of this, a study on older people with Parkinson's disease found that a six month program of generalized exercise benefitted their executive functions (Tanaka, de Quadros, Santos, Stella, Gobbi & Gobbi, 2009). These benefits are believed to play an important

role on independence and quality of life of this population (Tanaka et al., 2009). Moreover, evidence suggests that dancing as a form of physical activity may also address some of the physical impairments in people with Parkinson's disease, through teaching movement strategies, challenging balance and improving physical fitness (Earhat, 2009; Shanahan, Morris, Bhriain, Volpe, Richardson & Clifford, 2015).

It can be seen that DementiaGo has a psychological personal impact on residents and staff too. Staff highlighted that taking part in physical activities gives the residents an increase in confidence and a boost to do more as they are seen to feel happier in themselves, having accomplished an activity. A systematic review on older people's perspectives on participation in physical activity by Franco et al., (2015) supports this, as 13 of the included studies found that mastering an activity can give participants a sense of competence, in which encourages them to maintain exercising, leading to some participants experiencing an intense improvement in self-esteem and in the sense of self-worth. As mentioned in Chapter 1, the ability to perform physical activities, either independently or with support, provides the resident intrinsic satisfaction because of their fulfilment of the intrinsic need for self-maintenance (Baum 1995; Law et al., 1996). Similarly, a study by Rejeski et al., (2008) on older adults with impaired lower extremity functioning found that physical activity improved self-efficacy and satisfaction related to physical functioning. Moreover, Bowes et al., (2013) also reported how physical activity positively impacted the self-esteem and confidence of participants. Therefore this study, along with other published studies support that physical activity contributes to an increased satisfaction and self-esteem.

Furthermore, it was also identified that care staff also experience an increase in confidence following the involvement of DementiaGo in the homes. DementiaGo has given staff the opportunity to be involved in a fun, non-task focused project where they are invited to attend workshops and activities. This is important because as mentioned in Chapter 1, staff often feel that they are drowning in demanding work load feel pressure to complete prioritised tasks (e.g. Windle et al., 2019). However, being involved in Moving Moments provide some staff a more fun side to their role where they engage in meaningful activities with the residents; contributing to more personhood and quality of life of residents. The opportunity to be involved in DementiaGo's Moving Moments project has increased the confidence of some staff who talked about how they used to lack confidence when doing physical activities with the residents, until they began getting involved with DementiaGo. Staff also talked about how they also enjoyed the sport day, not only the residents, which positively contributed to job satisfaction. These findings are in line with

findings from a programme run in Suffolk called 'Creative Carers Programme' (Barnett, 2013). Suffolk County council identified the need to improve the skills of its care workers in delivering activities in homes. The benefits of this programme include an increase in staff confidence and job satisfaction, which is similar to what DementiaGo has provided care staff in this present study. Job satisfaction could perhaps lead to staff feeling happier in the home, in turn making a happier environment for the residents to live in. As mentioned in Chapter 1, a positive social environment is one of the four elements to person-centred care (Brooker 2004), in which people living with dementia can experience relative well-being. Moreover, the fact that DementiaGo supports the care staff reduces the risk of burn out (Pitfield, Shahriyarmolki & Livingston, 2011).

A social impact was also identified during the analysis. The social aspect of the project was very clear as residents and staff talked about how mixing with other people, from their own home or other homes, was one of the most enjoyable part of the project. DementiaGo's Moving Moments project has encouraged more physical activities within the homes which have seen residents from all units coming together to take part, homes visiting other homes to play Boccia, and homes competing against each other at the sport day. This seems to have been very valuable for the residents who have highlighted the importance of getting out and mixing with other people, which is a normal part of life for most of the general population, and therefore it should not stop once a person moves into a residential home. Furthermore, one significant outcome that has come from the project is that one of the homes began attending DementiaGo's community class at the local leisure centre. DementiaGo therefore connects the residents with the community, 'normalising' their lives. As previously mentioned in Chapter 1, the maintenance of social activities is associated with positive quality of life outcomes in people living with dementia (Burgener & Dickerson-Putnam (1990). Although there was no clear evidence of physical activity improving the quality of life of people with dementia in the review of reviews in Chapter 2, it can be argued that one way in which Moving Moments improves quality of life of residents is by connecting with others via physical activity. As discussed in Chapter 2, more research is needed to explore the impact of participating in physical activity on quality of life in order to attempt to fill the current gap in literature.

Taking part in physical activities has enabled conversations to occur naturally between residents, and has been a topic for conversation following the activities; some for a very long time such as the sport day. This identification supports that of Windle and colleagues (2019), who found that while engaged in art activities, conversations evolved naturally between residents and led to group discussions, developing a positive atmosphere within the home and a sense of community (Windle

et al., 2019). This highlights the need of group activities within homes which have a positive social impact on residents, positively contributing to an enhanced quality of life.

It was identified from staff interviews that DementiaGo has influenced a change in perception of the abilities of the residents. Staff talked about how surprised they were in the residents' abilities when taking part in physical activities, and how the residents could do much more than what the staff expected them to be able to do. This was particularly highlighted during the sports week, where staff did not expect some residents to be able to complete some of the activities, such as the penalty shootout. This therefore suggests an element of excess disability, which can be defined as "the gap between actual function and judged potential function" (Brody, Kleban, Lawton, & Silverman, 1971, p.125). It has become especially relevant in dementia care where carers underestimate the remaining abilities of the person with dementia, as found in the current study (Malone & Camp, 2007). In dementia care settings, care staff may have taken over jobs that the person used to do every day before coming into residential care, such as making a cup of tea, which can result in the resident losing the ability to do the job at all. Excess disability is therefore the discrepancy found when a person's functional abilities are lower than warranted by the impairment (Chung, 2004). DementiaGo may play a prominent role in preventing excess disability by promoting care staff to assist the resident to retain more of his or her ability to engage in activities of daily living, for example making their own cup of tea and helping to fold clothing. Doing these types of activities offers movement stimulation, which as previously mentioned in Chapter 1 is positively associated with improvements in abilities to perform activities of daily living and physical performance (Lee, Park & Park, 2016).

Another important identified theme was the perceived barriers of taking part in physical activities. The results of the current study revealed that perceived barriers can be physical, psychological, or associated with the care home culture. Some of the perceived barriers included physical health problems, limited mobility, fear of falling, residents' attitudes, and lack of 'free' time by staff to conduct the activities.

Physical health problems, including illness and pain were among the most frequently mentioned barriers (although it was believed that pain was reduced when taking part in physical activity for some residents as previously mentioned). Almost all older residents in long term care facilities have chronic health problems and declining health (Chang & Pang, 2007). However, although a

clear barrier to taking part in physical activities, residents need to be made aware that evidence indicated that physical activity can help improve their conditions and reduce related outcomes such as falls (Cameron et al., 2012; de Carvalho Bastone & Filho, 2004; Dechamps et al., 2010; Ouslander et al., 2005; Simmons, Ferrell, & Schnelle, 2002; Williams & Tappen, 2008).

Fear of falling was another frequently mentioned barrier that negatively affected participation in physical activities. The residents who feared falling had experienced falls before, which is known to induce the fear of falling again (Singh, 2005; Keskin et al., 2008). This finding is consistent with other reports (e.g. Bruce et al., 2002; Resnick & Nigg, 2003). Many residents were aware of the benefits of being physically active, and felt that they should move more, but were concerned of falling and hurting themselves. Falling is therefore a serious problem for older adults residing in residential homes (Schoenfelder, 2000). Further, falling becomes a bigger problem when residents don't take part in physical activities because they are afraid of falling, as they maintain an inactive lifestyle leading to declines in muscle strength and functional mobility. This decline actually leads to an increased risk of falling (Spirduso et al., 2005). The human cost of falling includes pain, distress, loss of confidence, loss of independence, and a financial cost to the NHS of estimated more than £2.3 billion per year (NICE, 2013). Falling therefore impacts quality of life, health and healthcare costs.

To counter some of the challenges around fear of falling, DementiaGo have been working with care staff to reduce the fear around falling, by encouraging movement and reassuring staff so that in turn, they can reassure residents. This is done in the Moving Moments workshops by educating staff the importance of keeping active in order to maintain balance, strength, co-ordination etc., and demonstrating how to perform sit-to-stands (moving from a seated position into a standing position) safely, so that they can return to the homes and encourage residents to perform sit-to-stands. Sit to stand movements are essential for daily activities and failure to perform sit to stands movements may lead to falls (Cheng et al., 2014). It is therefore important for staff to provide older residents with information on the benefits of physical activity on preventing falls, so that residents perform sit-to-stands confidently and increase their lower limb muscle power, lower body endurance, coordination and motor control, which is turn reduces the risk of falling (World Health Organisation, 2008b). Fear of falling is not healthy for mental wellbeing and it is important that residents are aware that even a low level of physical activitiy has been shown to improve the mental wellbeing of older people (Windle, 2014).

Another perceived barrier that was identified during the analysis was the demands of the care home culture. Staff emphasised on how busy every day is at the home, and how every day is different. Staff explained how sometimes they are the reason why residents can't take part in physical activities, as they haven't got enough time that they can allocate to conduct physical activities. Consistent with Windle et al., (2019), staff in this current study also experience the demands and strain of the working system where task-focused activities and "health and safety" must come first. Due to low staffing at some homes, staff felt that at times they didn't have enough staff to complete daily tasks that are required to be performed, as well as leading physical activities with the residents too as they feel pressurised to accomplish tasks such as paper work. Furthermore, staff explained how they can't allocate time for planned physical activities, for example conducting Boccia every Monday, as every day is different meaning that events can occur, for example a medical emergency with a resident, meaning that they would not be able to prioritise leading the physical activity.

Facilitators to take part in physical activities were identified during analysis. Staff talked about how they use different techniques in an attempt to encourage residents to take part in physical activities and to do more. One of the perceived facilitators was the use of music, as staff mentioned "if you put a bit of music on they love it" (ST07). Furthermore, residents have also been enjoying when Dawns I Bawb (a local dance company) have been visiting the homes, promoting movement through the use of songs. Previous literature shows that music can encourage people to take part as it enables people to participate in activities (Sixsmith & Gibson, 2007). Moreover, evidence shows that the use of music when doing physical activities have beneficial effects on participants also. Combining physical exercise with music has been shown to produce more positive effects on cognitive function in elderly people than exercise alone (Satoh et al., 2014).

A practical issue that was identified was that some activities needed to be more inclusive. In regards to gardening, residents from one particular home talked about how none of the residents did any gardening in that home. The reason for this was because one staff member "seems to enjoy doing it" (RES02). The fact that gardening has been left for one staff member to do excludes residents from getting involved and going outside to the fresh air. Residential homes should make all activities inclusive for everyone, both staff and residents where they can enjoy doing activities together. Perhaps the residential homes should encourage activities in the homes to be everyone's job, by sharing responsibilities and accomplishing activities as a team effort. As research by Step Change Design Ltd. (they are working towards publishing their findings) has shown, relationship-centred care homes should make it everyone's job to help the resident engage with the outside

space. The idea of this is to include all residents in activities such as gardening, enabling them to be helpful and get them doing relevant and meaningful tasks. Examples of ways that promoting 'make it everyone's job' in the homes could include having a rota for residents to water the plants, go for a walk outside to check if the plants are ok, check if there are any strawberries ready to be picked, checked if there's enough food for the birds etc. Similar with other activities inside the home, roles and responsibilities could be incorporate into everyday life in the homes where residents feel like they have a part to play, a sense of purpose.

Recommendations for the future delivery of DementiaGo's Moving Moments project in residential homes

The current study can offer numerous recommendations that could potentially contribute to a greater impact of DementiaGo in the residential homes. Moreover, the recommendations could be implemented in other residential homes that have not been involved in the Moving Moments project.

Recommendation 1 and perhaps the most significant, is for DementiaGo to offer additional workshops for staff that are more practical orientated. The workshops could share practical ideas of ideas for staff, including demonstrations and information to go along with each activity. Furthermore, the workshop could provide information to staff on how they could do a warm up with the residents before doing physical activities, to reduce the risk of injury and to ensure that residents are performing physical activities in a safe manner, for example, correct posture etc. This could potentially increase staff confidence in leading activities in the homes, in turn increasing the residents' confidence in performing physical activities.

Recommendation 2. Although the aim of Moving Moments is to encourage every day movement (not necessarily structured exercises), the Moving Moments project may be more efficient in the homes if DementiaGo organised for external organisations to offer care staff accredited practical training, such as a basic chair-based exercise training. Some physical training would also be beneficial to assist every day movement in the homes as a number of staff mentioned how they were scared of hurting residents when doing physical activities, for example by telling them to do something that would hurt the resident, for example, lifting the arms too high for a resident who has shoulder problems. Not only could this increase the staff's confidence further, it could contribute to the staff member's personal development, enhancing skills such as leadership. Completing a

basic practical training course would mean that staff would have an additional qualification, hopefully giving them a sense of value in their workplace, making them feel that they have more capabilities than that of a 'traditional' care worker. Moreover, having practical training on how to instruct exercises safely with the residents could lead to less falls, and less cost to the NHS, also reducing the need for physiotherapists or occupational therapists to come into the homes to do physical activities.

Recommendation 3 is for DementiaGo to ensure its Moving Moments project is set around seasonal challenges. Staff and residents seemed to be under the impression that the project was about one week only, the sport week. However, the Moving moments project is about empowering residents to move more every day, keeping their momentum following the build-up of practicing activities for the sport day. Therefore, DementiaGo could set seasonal challenges, meaning that the residential homes would be working towards a challenge throughout the year.

Recommendation 4 is to ensure people understand the aims of the Moving Moments programme. To help residential homes to understand the aims of the Moving Moments project, DementiaGo could visit each home, providing staff, relatives and residents a presentation of what the project is aiming to achieve in a simple format. This will help staff, and could lead to more physical activities opportunities for residents in the homes. It was suggested that some staff felt that physical activities had to be structured exercises, which was not the case, physical activities could be anything that meant that the resident was doing more than only sitting down.

Recommendation 5 is to give staff the opportunity to set their own monthly goals. The activities could be monitored and then reviewed by DementiaGo staff who could visit the homes occasionally. The challenges could be different for each home for each month, including residents in the decision making, promoting person-centred care. The challenges could include getting the residents to lay the tables, residents to help washing the dishes, residents to help fold clothes, residents to do sit-to-stands before sitting down following a meal, staff to walk around the garden with residents twice a day etc. Setting challenges could motivate both residents and staff, keeping the momentum going and hopefully contributing to improved quality of lives and physical function.

Recommendation 6. To further improve understanding and awareness of DementiaGo and the Moving Moments project, DementiaGo could design an information leaflet that could contain all the information regarding DementiaGo and its project aims. These leaflets could be distributed to the residential homes, as well as GP surgeries etc. therefore raising awareness of what the Moving Moments project is about and its associated benefits.

Recommendation 7. In order to make staff feel valued for their hard work, DementiaGo could provide staff with certificates for attending workshops and for their involvement with physical activities. The findings of this current study has highlighted how providing residents with medals for attending the sport day had such an important impact on the residents. It made them feel proud and gave them a sense of achievement, possibly a sense of purpose too. Therefore, staff should also be made feel worthy and be proud of their achievements in the workplace. A certificate would mean that the staff would have something to show for their hard work, and possibly contribute to an increased job satisfaction.

Strengths and limitations

The current research attempted to fill in a gap in the literature, as it was highlighted from the literature review chapter that most existing literature in this field of physical activity and dementia in residential homes measure physical outcome measures. Therefore, a strength of this research was that it used a qualitative method that aimed to understand the impact of physical activity on the quality of life of residents in residential homes following the increase of physical activity.

Another strength to this study was that it was completed in a relatively small time frame (12 months), as it was conducted by a Masters by Research student. The student, which was the main researcher in this study, conducted the literature review, data collection, transcription, analysis and the final write up independently. However, the researcher met up with academic supervisors once a week/sometimes every other week, where she received guidance and support along the whole process.

As the methodology of the current study consisted of using semi-structured interviews, it provided participants the opportunity to share their experiences, providing them with a chance to enhance on thoughts and opinions, therefore allowing for richness of data to be gathered. Moreover, this study

explored the impact of DementiaGo in residential homes from three perspectives; the residents, care staff and relatives of residents. This was a strength of the study as it not only gave residents the opportunity to provide their first-person accounts, it has also considered the views of their relatives and care staff.

Findings from the analysis have revealed practical implications for the future, for example, the need for practical training for staff. Implementing the recommendations already mentioned above could further develop staff's skills and confidence, raise further awareness of the Moving Moments project, in turn, leading to an improved delivery of DementiaGo in residential homes meaning an increased quality of life of residents.

A final strength to this study is that in an attempt to ensure the quality of reporting the study, the researcher followed the Consolidated Criteria for Reporting Qualitative Research checklist (COREQ; Tong, Sainsbury & Craig, 2007). The current study adopted 26 of 32 criteria. The criteria that the current study did not meet included returning transcripts to participants to check and a description of the coding tree.

As previously mentioned, the current study was conducted in a relatively small time frame. Although this can be seen as a strength of the study, as the researcher conducted a whole research independently as part of a Masters by research degree, it also meant that the researcher couldn't dedicate considerable time within the three homes to interview and observe participant, reducing the opportunity to become as familiar with residents, relatives and care staff.

A potential weakness to the study is that a potential selection bias of participants existed in the data as staff participants were approached to take part in the research by the managers. In this case, the managers could have acted as gatekeepers as the managers could have put forward participants who they believed would provide information that the gatekeeper anticipated the researcher wanted to hear.

Furthermore, several other sources of bias could exist in the data as the researcher conducted all interviews, so interviewer and response bias may be present. As the researcher was influential at each stage of the study, it is evident that she was unable to remain objective during data analysis

due to the analysis becoming a hybrid of inductive and deductive. However, all interviews were audio recorded so are open to audit and to enhance quality control, the research team met after each team member independently coded one of the transcripts in order to compare and ensure that the researcher had understood the process of coding. Moreover, each stage of the analysis included discussions between the researcher and the academic supervisors.

A weakness to the study also included that one interview stopped recording after 7 minutes, about three quarters though the interview, without the researcher noticing. This loss of data occurred as the resident held the Dictaphone as a microphone, as she had preferred, therefore it was possible that the stop button had been pressed by accident. Therefore in future research, it is suggested that the researcher should ensure that the Dictaphone is untouched during the interviews.

Including people with dementia is essential when evaluating an impact of a project in residential homes, as it is believed that an estimated 70% of all care home residents have dementia (Prince et al., 2014). However, a research challenge that can occur from including people with dementia is that some may have no memory of taking part in physical activities. This was highlighted in an interview with one resident, who had no memory of taking part in a Boccia sessions where another home had come to that home to play. The researcher was informed before the interview that this particular resident had taken part, but when the researcher asked the resident during the interview, the resident could not remember taking part and actually thought that the care staff had not informed her that it was taking place. This led to the resident feeling left out, although the resident had taken part. Therefore, it is important to consider that the findings of this study may not reflect the most accurate representation of the impact of DementiaGo in the residential homes, as some residents with dementia may have forgotten taking part in some physical activities. However, to counter this, the researcher spoke to staff and relatives and got their perspectives of the residents' experiences. Therefore in future research, it is suggested that staff use prompts such as visual aids, for example a photo of the resident doing the activity, to help them have a conversation and also inspire the resident.

Another weakness to the current study is that participant validation of the findings had been with staff that were not a part of the evaluation. Although the staff were a part of the Moving Moments project, they were not participants of the study and therefore had not been interviewed. However, the researcher expected participating staff to be present in the task force group meeting between the

residential home staff and the DementiaGo team. Nevertheless, the findings of this study resonated with these staff, suggesting they share similar experiences as the staff participants.

A dementia diagnosis was not a criteria to take part in this study. The researcher was informed by staff that 4 residents had a dementia diagnosis, but it was believed that others had a form of dementia that had not been yet diagnosed. The stage or severity of dementia was also unknown. Therefore, it is unclear whether DementiaGo has a consistent impact on all residents, of all dementia types and severities. In future research, the Clinical Dementia Rating Scale could be used to estimate the level of impairment, as this can be calculated without any formal testing of research participants. If the impact of exercise on cognitive function is of interest, it is suggested that researcher could collect data of the Mini Mental State Examination (MMSE) of those who had dementia, in order to explore whether physical activity impacts people of different cognitive impairment differently.

Finally, a potential limitation was that two staff members were interviewed together, at the same time. The two staff members would only take part in the study if they were interviewed together. If this was a larger study, they would have been excluded from participating. However, the researcher did not want to exclude these staff for that reason only, as useful information and findings could have been missed if these staff would not have taken part in the evaluation. Moreover, the researcher felt that it was important for participants to feel comfortable when taking part in the study, and therefore if the staff felt more comfortable doing it together, then this might have had led to each other elaborating together providing the research with enriched information.

Conclusion

The findings suggest that DementiaGo's Moving Moments project in the residential homes has a positive impact on residents and staff, and may be particularly useful for the development of the social care workforce. The project has increased physical activity in the homes, and has validated some of the staff's skills and confidence, positioning care staff with much to offer apart from their daily role, as well as reassuring residents of their sense of purpose. The enjoyment of the participants, especially during the sports week, seems to have a longer lasting impression on residents, therefore impacting their daily lives beyond the moment itself, giving them something to be proud of. The findings have also highlighted barriers and facilitators to taking part in physical activities, recognising tactics to try and reduce barriers and to encourage more residents to take part

in physical activities. Perhaps one of the biggest impact found in this evaluation is that staff perceptions of the resident's abilities changed. Staff have learnt from this project that the residents are capable of doing much more than they expected, this exemplifying the excess disability imposed on the residents. Although there is room for improvement in terms of project delivery, DementiaGo is having a positive impact in Gwynedd council's residential homes, improving the quality of lives of both residents and staff.

Chapter 4: Discussion

This thesis aimed to evaluate the impact of a physical activity programme on residents, relatives and staff in Gwynedd council's residential homes. A review of existing systematic review (Chapter 2) highlighted a lack of research focusing on non-physical outcome measures such as quality of life and wellbeing. Previous studies have largely focused on physical outcome measures following physical activity interventions. However, it was found in Chapter 3 that quality of life is the main concept of Moving Moments. It is apparent that the Moving Moments project differs to most physical activity intervention as similar programmes are limited; most existing physical activity interventions primarily involved the delivery of time-limited interventions by staff external to the care homes, as highlighted during the literature search (Chapter 2). However, an existing approach that takes place in Scotland (led by the Care Inspectorate) is the 'Care About Physical Activity Improvement Programme' (CAPA) (Macintosh & Laventure, 2014). This was not identified during the literature review carried out in chapter 2 of the thesis, as it is not included in any of the systematic reviews. This approach is similar to Moving Moments in that it aims to improve opportunities and increase levels of physical activity amongst residents in residential homes in Scotland. Furthermore, the CAPA approach is designed to raise awareness about the importance of physical activity, focusing on increasing skills, knowledge and capacity amongst the care workforce. Therefore, we are able to see from the current thesis that DementiaGo supports the CAPA approach.

The empirical study of the thesis (Chapter 3) presented qualitative results of the impact of DementiaGo's Moving Moments in the residential homes from the perspectives of the residents, relatives and staff. To supplement data collection, the researcher completed personal reflections at various stages of the research process. Some of the personal reflections can be seen in Chapter 3. Following analysis of data, the researcher was able to offer recommendations to improve the project which were presented towards the end of Chapter 3.

Challenges faced during the research process

The first challenge faced during the research process was obtaining ethical approval. Until ethical approval was obtained from both the School of Health Sciences Research Ethics Committee at Bangor University, and the North Wales Research Ethics Committee, the researcher could not begin the research. Obtaining ethical approval from the School took a long time due to staff from Bangor University taking annual leave over the festive period. When the ethical application was looked at, it required some amendments as reviewers required more justification for the inclusion of people lacking capacity in the research. When ethical approval from the School was finally

obtained on the 7th of January, 2019, the researcher could then submit the IRAS form to the North Wales Research Ethics Committee. Finally, ethical approval was obtained on the 28th of February, 2019. As this was a Masters by Research project, the researcher was under a limited timeframe before beginning contacting the residential homes as the ethics process had taken around six months (half of the one year that the researcher had to complete the project).

Following ethical approval, the researcher contacted the residential homes' managers via email regarding the proposed project. This proved to be the second challenge faced during the research process. Having sent numerous emails to try and arrange suitable dates to meet with the managers to discuss the project, communication seemed to be an apparent problem. Communication continued to be a challenge during the year as DementiaGo's manager also found it challenging when organising the task group meetings for care staff. In some cases, information sent to the managers was not getting passed on to the rest of the staff. This concluded in low numbers attending the task group meetings etc.

Another continued challenge throughout the process was limited time. The researcher felt tight for time to complete the research at various points. In six months, the researcher was required to collect data, transcribe interviews and analyse the data. Of course, the short time frame was not helped by the delay of ethical approval; the researcher felt that the one year to complete the Masters by Research should have begun once ethical approval was obtained. The researcher was surprised to learn how time consuming each stage of the research process were, for example, transcribing all interviews independently. However, the researcher overcame this challenge by regularly setting progress deadlines. The researcher was also on track to submitting the thesis within the write up period.

How the research led to changes in the delivery of Moving Moments

Although not an action research project, the researcher provided regular feedback, information and suggestions to DementiaGo's project manager throughout the year and the company began implementing changes. One way that the Moving Moments project evolved since the beginning of the research is by improving communication with care staff. As previously mentioned in the challenges section of the current chapter (Chapter 4), communication between DementiaGo and residential homes' staff was not working efficiently. Following discussion between the researcher and DementiaGo's manager, it was decided to implement on the researcher's suggestion of creating

a WhatsApp group between the DementiaGo staff and the care staff. Care staff believed that this would be a good idea as they were aware that not all information was getting passed to themselves from their managers. Care staff who were happy to share their personal phone numbers and who gave consent were included in the WhatsApp group. The WhatsApp has been used as a platform to share information such as upcoming task group meeting dates, an exchange of ideas and tips to improve movements between the homes, as well as a platform to exchange photos of residents taking part in physical activities. To date, there are now over 30 active members in the group chat, consisting of staff from ten out of the eleven possible homes. It must be noted that the DementiaGo team continue to send emails including the same information as the group chat to the care home managers too.

Another suggestion by the researcher (as seen in recommendation 7 in Chapter 3) that was implemented by the company during the year was to make care staff feel more valued at work, so they recognise that they are much more than just a carer and that they are contributing to a possibly improved quality of life of residents by promoting physical activity. It was therefore decided to provide staff with attendance certificates for attending DementiaGo's workshops, as well as a certificate for attending the Go for Gold sport days. As previously mentioned in Chapter 3, the findings from the empirical study highlighted how providing residents with medals for attending the sport day had such an important impact on the residents. It made them feel proud and gave them a sense of achievement, possibly a sense of purpose too. Therefore, with the aim of making staff feel more valued and proud of their achievement in their workplace, certificates are being provided to give staff something to show for their hard work, and possibly contribute to an increased job satisfaction.

Another way that the Moving Moments project has evolved is by implementing recommendation 3 in the discussion section of Chapter 3. The third recommendation by the researcher was to introduce seasonal challenges to keep the momentum of moving going throughout the year. As a consequence to this recommendation, DementiaGo have included seasonal challenges to the Moving Moments project. These challenges were introduced to staff in July 2019 in a task group meeting and via email. The challenges consists of the following:

- Spring: Out and about
- Summer: Go for Gold sports week
- Autumn: Sporting memories

- Winter: Dancing shoes

As well as introducing new seasonal challenges to the programme, DementiaGo introduced a new workshop for care staff. In June 2019, two workshops were held by an external organisation on 'Why don't we go into the garden' where 13 care staff attended. The aim of the workshop was to increase staff confidence and interest in using the existing outside spaces in the residential homes in order to engage residents regularly and meaningfully in their gardens, therefore increasing physical activity through the use of the garden. The content of the workshop can be found in APPENDIX N.

Lastly, DementiaGo are currently working towards organising practical training on physical activity for care staff. Lack of practical training was a re-occurring topic that came up in numerous staff interviews. As highlighted in recommendation 1 (Chapter 3), the researcher recommended the introduction of practical training for staff, in addition to the existing Moving Moments workshops. It is within DementiaGo's budget to organise an external organisation to carry out the training. It is hoped that the practical training will take place in the new year (2020).

Strengths and weaknesses of the research process

Strengths

This study has provided evidence of the impact of DementiaGo's Moving Moments in the residential homes, as well as offering several recommendations. A major strength to the study is that it enabled DementiaGo to implement changes based on recommendations by the researcher during the research process. Furthermore, this study provides evidence that DementiaGo supports National Health & Wellbeing strategies, as demonstrated previously in the current chapter.

In regards to the residential homes, by the researcher spending time in homes during data collection, it has motivated one home to attend DementiaGo's community class. This is a strength as it is a further way of connecting residents to the community. Moreover, spending time in the homes has enabled the researcher to make a good connection with the homes. Staff and residents have become familiar with myself, which has helped to gain their trust in the researcher. As the researcher has been attending the task group meetings between DementiaGo and care staff, updating attendees on the research along the year, this has enabled staff from other homes that were not included in the evaluation to become familiar with the researcher too. Similarly with the

DementiaGo team, the Moving Moments project has strengthened the link and communication between the DementiaGo team and the residential homes' staff and residents.

Another strength from the study is that the fact that it was conducted as a Masters by Research degree at Bangor University, it has strengthened the link between the university and DementiaGo. This could prove to be of benefit in the future for example if further research was to be required, or if DementiaGo could support events occurring in the university. Furthermore, as part of the Masters by Research degree, the researcher has attended numerous conferences and has presented the work. By doing this, the study has led to a raised awareness of DementiaGo by networking at conferences, as well as representing the university e.g. in the British Society of Gerontology 2019 conference at Liverpool.

From the researcher's perception, perhaps the most significant strength of the study is that it has contributed greatly to the researcher's personal development. Undertaking the Masters by Research has significantly increased the researcher's confidence, time managing, leadership and academic skills. The growth in confidence was demonstrated in the personal reflections, and led to the researcher independently conducting Boccia sessions at one of the homes. Moreover, by volunteering to do Boccia sessions, DementiaGo organised for the researcher to complete a Boccia leaders' course; a new qualification for the researcher's C.V. Moreover, the skills and experience acquired by the researcher along the process has contributed the researcher's appointment as the latest DementiaGo staff member. The researcher's main duty will be strengthening the link between DementiaGo and the residential homes to improve the Moving Moments project and increase participation. As a consequence of the employment, the researcher will be based once a week with Gwynedd council's social workers in social care, this will increase links with the social workers which could attract more referrals to DementiaGo's community classes.

Limitations

A limitation to this study was the low number of participants with a dementia diagnosis (*n=4).* However, this reflects the low diagnosis rate in Wales as reported in Chapter 1 and Chapter 3 (according to Alzheimer's Research UK, the dementia diagnosis rate in Wales was only 53% in 2017/2018). The study was initially set out to include more people with a diagnosis of dementia but as we went into the homes it was clear that not all had a formal diagnosis of dementia.

Therefore, we depended on staff to identify people who may have dementia, but are currently undiagnosed.

Due to the short time frame to complete the research as it was a Masters by Research, the researcher had to decide on a date in which to end to stop collecting data, which was May 2019. As the Moving Moments project is an evolving project, as previously mentioned, several events and workshops took place after May 2019. One of the events was the annual Boccia tournament which saw a number of homes taking part. However, the interviews were conducted before the event which is a possible limitation, as it could have provided the researcher with more rich-filled experiences from DementiaGo. Furthermore, the 'Why don't we go into the garden' workshops were also held after the researcher had completed data collection. As mentioned in Chapter 3, the researcher felt that not all staff and residents understood the aims of the project, automatically referring to the sport week only when talking about DementiaGo. If the interviews would have been conducted following the garden workshop, this could have clarified to staff that the project is much more than only the sport day. However, due to the project being ongoing, it was imperative to choose a data to stop collecting data as this was a one year Masters by Research project.

Lastly, a potential limitation is that the researcher had been conducting Boccia sessions at one home. This could have led to other homes feeling left out, and suggesting favouritism. However, as justified in Chapter 3, the researcher volunteered to conduct Boccia sessions as that home had been making the effort to attend the community classes which had to stop for six weeks. What the researcher had not considered until after was that going to the home to do Boccia with the residents could have had a negative impact. By knowing that the researcher was doing Boccia once a week, this could have prevented some staff from doing physical activities with the residents, as they knew that the researcher was coming. Furthermore, as reflected upon in the personal reflections section of the current chapter (Chapter 4), the researcher felt that the staff were not staying with the residents to do Boccia, and not taking part or learning ideas from the researcher. Possibly, the hour spent in the home could have been an hour for staff to catch up on paper work, although there is no evidence to support this.

Implications of the research

This thesis has provided an evidence-based evaluation of DementiaGo's Moving Moments project in the homes. It is clear that the project is having a positive impact on the residents' lives, as well

as contributing to an improved quality of life for staff also. The research has highlighted ways to improve the project which DementiaGo have been implementing during the year. One recommendation from the research findings was to provide staff with practical training, which DementiaGo are currently organising. By providing staff with appropriate support and training, DementiaGo eliminates the risk of staff burn out (Pitfield, Shahriyarmolki & Livingston, 2011). It is possible to suggest that reducing staff burnout could lead to a more satisfied workforce and therefore result in lower staff turnover, which will in turn result in a happier environment for residents and staff. This could be explored in future research.

As previously mentioned in Chapter 1 of the thesis, legislative changes in Wales demonstrate the Welsh Government's focus on improving the wellbeing and quality of life of people engaging with care services in Wales, as noted in both the Wellbeing of Future Generations Act 2015 and the Social Services and Wellbeing (Wales) Act 2014. It is shown in the thesis that DementiaGo's Moving Moments programme supports the legislative focus on wellbeing outcomes. Furthermore, the programme supports the Welsh Government's vision of A Healthier Wales: our Plan For Health and Social Care (Welsh Government, 2018), such as using a person-centred approach, ensuring that high quality services can be accessed by everyone in Wales, and making Wales a great place to work in health and social care through the upskilling of care staff. Therefore, the findings from the thesis support that Gwynedd County Council's flagship programme should be implemented widely across Wales and beyond by other local authorities as a way of support the wellbeing of care home residents. Furthermore, the findings from the thesis will be used to strengthen DementiaGo's proposal to commissioners to ensure the continuation of the service.

Suggestions for future research

The findings of this exploratory study highlights both psychological and physical impact of a physical activity programme. To further investigate the true impact of a programme similar to Moving Moments, future research should include a focus on two main outcomes; quality of life for people living with dementia and staff efficacy. The lack of quality of life measures in physical activity interventions, as highlighted in Chapter 2, suggests that the true impact of physical activity on participants is not fully considered. The researcher suggests that in order to evaluate a true impact of a physical activity programme, future research should measure quality of life of people living with dementia using the Quality of Life in Alzheimer's Disease measure (QoL-AD) (Logsdon, Gibbons, McCurry, & Teri, 1999), as it is considered by Moniz-Cook et al., (2009) to be

the measure of choice. In regards to staff efficacy, the impact of participating in Moving Moments was apparent to have increased the confidence and efficacy of staff in undertaking physical activities with the residents. Future research should therefore also explore the efficacy of staff further, using the most relevant measure to capture the impact of physical activity interventions on staff efficacy.

Conclusion

This project aimed to explore and evaluate the impact of DementiaGo's Moving Moments project in Gwynedd council residential homes and offer recommendations for improvement. The review in Chapter 2 of the thesis provides mixed evidence that physical activity interventions benefit people living with dementia of any stage. The thesis identifies a gap in the current systematic reviews in that it evaluates the impact of a physical activity programme that aims to improve the quality of life of residents, rather than just focussing on physical outcome measures. The findings from the empirical study in Chapter 3 shows that DementiaGo's Moving Moments project increases physical activity in the residential homes and has a positive impact on residents, relatives and staff of Gwynedd Council residential homes. The programme has contributed to an improved quality of life of both residents and staff, in particular leading to an increased confidence and sense of value. Another important finding was that staff have learnt that the residents can do much more than what they expected them to be able to do. Further, the thesis offers a number of recommendations which have already led to changes in the delivery of Moving Moments. Finally, the findings from the thesis support that Gwynedd County Council's flagship programme should be implemented widely across Wales and beyond by other local authorities as a demonstration of improving the wellbeing of care home residents.

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Windle, G., Algar-Skaife, K., Caulfield, M., Pickering-Jones, L., Killick, J., Zeilig, H., & Tischler, V. (2019). Enhancing communication between dementia care staff and their residents: an arts-inspired intervention. *Aging & mental health*, 1-10.

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Appendix

Appendix A: Reference list of included reviews

Brett, L., Traynor, V., & Stapley, P. (2016). Effects of physical exercise on health and well-being of individuals living with a dementia in nursing homes: A systematic review. *Journal of the American Medical Directors Association, 17*(2), 104-116. doi:10.1016/j.jamda.2015.08.016

Forbes, D., Forbes, S., Morgan, D. G., Markle-Reid, M., Wood, J., Culum, I., . . . Forbes, S. (2015). Exercise programs for people with dementia. *Cochrane Database of Systematic Reviews*, (4), N.PAG. doi:10.1002/14651858.CD006489.pub4

Lam, F. M., Huang, M., Liao, L., Chung, R. C., Kwok, T. C., & Pang, M. Y. (2018). Physical exercise improves strength, balance, mobility, and endurance in people with cognitive impairment and dementia: A systematic review. *Journal of Physiotherapy, 64*(1), 4-15. doi:10.1016/j.jphys.2017.12.001

Pitkälä, K., Savikko, N., Poysti, M., Strandberg, T., & Laakkonen, M. (2013). Efficacy of physical exercise intervention on mobility and physical functioning in older people with dementia: A systematic review. *Experimental Gerontology, 48*(1), 85-93. doi:10.1016/j.exger.2012.08.008

Potter, R., Ellard, D., Rees, K., & Thorogood, M. (2011). A systematic review of the effects of physical activity on physical functioning, quality of life and depression in older people with dementia. *International Journal of Geriatric Psychiatry, 26*(10), 1000-1011. doi:10.1002/gps.2641

Song, D., Yu, D. S. F., Li, P. W. C., & Lei, Y. (2018). The effectiveness of physical exercise on cognitive and psychological outcomes in individuals with mild cognitive impairment: A systematic review and meta-analysis.*International Journal of Nursing Studies, 79*, 155-164. doi:10.1016/j.ijnurstu.2018.01.002

Appendix B: Reference list of excluded reviews

Excluded from title with reasons (71)

Reference of excluded study	Reason for exclusion
Abraha, I., Rimland, J. M., Lozano-Montoya, I., Dell'Aquila, G., Vélez-Díaz-Pallarés, M., Trotta, F. M., . . . Cherubini, A. (2017). Simulated presence therapy for dementia. *Cochrane Database of Systematic Reviews,* (4) doi:10.1002/14651858.CD011882.pub2	Ineligible intervention
Abraha, I., Rimland, J. M., Trotta, F. M., Dell'Aquila, G., Cruz-Jentoft, A., Petrovic, M., . . . Cherubini, A. (2017). Systematic review of systematic reviews of non-pharmacological interventions to treat behavioural disturbances in older patients with dementia. the SENATOR-OnTop series. *BMJ Open, 7*(3), e012759. doi:10.1136/bmjopen-2016-012759	Irrelevant
Alsaeed, D., Jamieson, E., Gul, M. O., & Smith, F. J. (2016). Challenges to optimal medicines use in people living with dementia and their caregivers: A literature review. *International Journal of Pharmaceutics, 512*(2), 396-404. doi:10.1016/j.ijpharm.2015.12.050	Irrelevant
Arai, H., Ouchi, Y., Yokode, M., Ito, H., Uematsu, H., Eto, F., . . . Members of Subcommittee for Aging. (2012). Toward the realization of a better aged society: Messages from gerontology and geriatrics. *Geriatrics & Gerontology International, 12*(1), 16-22. doi:10.1111/j.1447-0594.2011.00776.x	Irrelevant
Beard, R. L. (2012). Art therapies and dementia care: A systematic review. *Dementia: The International Journal of Social Research and Practice, 11*(5), 633-656. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1177/1471301211421090	Ineligible intervention
Belyaev, I., Dean, A., Eger, H., Hubmann, G., Jandrisovits, R., Kern, M., . . . Thill, R. (2016). EUROPAEM EMF guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illnesses. *Reviews on Environmental Health, 31*(3), 363-397. doi:10.1515/reveh-2016-0011	Irrelevant
Bird, T. D. (1993). Early-onset familial alzheimer disease. In M. P. Adam, H. H. Ardinger, R. A. Pagon, S. E. Wallace, L. J. Bean, K. Stephens & A. Amemiya (Eds.), *GeneReviews*® (). Seattle (WA): University of Washington, Seattle. Retrieved from http://www.ncbi.nlm.nih.gov/books/NBK1236/	Ineligible publication year
Booth, V., Harwood, R., Hood, V., Masud, T., & Logan, P. (2016). Understanding the theoretical underpinning of the exercise component in a fall prevention programme for older adults with mild dementia: A realist review protocol. *Systematic Reviews, 5*(1), 119. doi:10.1186/s13643-016-0212-x	Irrelevant
Bossen, A. L. G. (2018). *The naturally restorative environment as a nonpharmacological intervention for dementia* (Ph.D.). Available from PsycINFO. (1977991415; 2017-43828-003). Retrieved from https://search-proquest-com.ezproxy.bangor.ac.uk/docview/1977991415?accountid=14874	Ineligible intervention
Brodaty, H., & Burns, K. (2012). Nonpharmacological management of apathy in dementia: A systematic review. *The American Journal of Geriatric Psychiatry, 20*(7), 549-564. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1097/JGP.0b013e31822be242	Ineligible outcome measure
Busse, M., Khalil, H., Brooks, S., Quinn, L., & Rosser, A. (2012). Practice, progress and future directions for physical therapies in huntingtons disease. *Journal of Huntington's Disease, 1*(2), 175-185. doi:10.3233/JHD-120025	Irrelevant

Carter, C. S., Hofer, T., Seo, A. Y., & Leeuwenburgh, C. (2007). Molecular mechanisms of life- and health-span extension: Role of calorie restriction and exercise intervention. *Applied Physiology, Nutrition, and Metabolism = Physiologie Appliquee, Nutrition Et Metabolisme, 32*(5), 954-966. doi:10.1139/H07-085	Ineligible publication year
Cipriani, J., Cooper, M., DiGiovanni, N. M., Litchkofski, A., Nichols, A. L., & Ramsey, A. (2013). Dog-assisted therapy for residents of long-term care facilities: An evidence-based review with implications for occupational therapy.*Physical & Occupational Therapy in Geriatrics, 31*(3), 214-240. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.3109/02703181.2013.816404	Ineligible intervention
Clarkson, P., Davies, L., Jasper, R., Loynes, N., & Challis, D. (2017). A systematic review of the economic evidence for home support interventions in dementia. *Value in Health, 20*(8), 1198-1209. doi:10.1016/j.jval.2017.04.004	Irrelevant
Clarkson, P., Davies, L., Jasper, R., Loynes, N., Challis, D., & Home Support in Dementia (HoSt-D) Programme Management Group. (2017). A systematic review of the economic evidence for home support interventions in dementia. *Value in Health: The Journal of the International Society for Pharmacoeconomics and Outcomes Research, 20*(8), 1198-1209. doi:10.1016/j.jval.2017.04.004	Irrelevant
Collier, S., Monette, P., Hobbs, K., Tabasky, E., Forester, B. P., & Vahia, I. V. (2018). Mapping movement: Applying motion measurement technologies to the psychiatric care of older adults. *Current Psychiatry Reports, 20*(8), 64. doi:10.1007/s11920-018-0921-z	Irrelevant
Enmarker, I., Olsen, R., & Hellzen, O. (2011). Management of person with dementia with aggressive and violent behaviour: A systematic literature review. *International Journal of Older People Nursing, 6*(2), 153-162. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1111/j.1748-3743.2010.00235.x	Irrelevant
Espert, R., Bertolín, J. M., Navarro, J. F., & González, A. (1995). [Dementias: Present situation and future perspectives (III). neurological, therapeutic, psychosocial aspects and patient care]. *Revista De Neurologia, 23*(119), 86-95. Retrieved from https://www.ncbi.nlm.nih.gov/	Ineligible publication year
Flanagan, L., Roe, B., Jack, B., Barrett, J., Chung, A., Shaw, C., & Williams, K. S. (2012). Systematic review of care intervention studies for the management of incontinence and promotion of continence in older people in care homes with urinary incontinence as the primary focus (1966-2010). *Geriatrics & Gerontology International, 12*(4), 600-611. doi:10.1111/j.1447-0594.2012.00875.x	Ineligible outcome measure
Göhner, A., Hüll, M., & Voigt-Radloff, S. (2018). Nichtmedikamentöse Behandlung von Demenz in gerontopsychiatrischen Einrichtungen: Systematischer Überblick. *Zeitschrift für Gerontologie und Geriatrie, 51*(2), 169-183. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1007/s00391-016-1161-7 Retrieved from https://search-proquest-com.ezproxy.bangor.ac.uk/docview/2009248694?accountid=14874	Non-English language
Guimaraes Marcelino, C. A., Monteiro, d. C., & Rueda, L. J. (2013). The efficacy of telephone use to assist and improve the wellbeing of family caregivers of persons with chronic diseases: A systematic review protocol. *JBI Database of Systematic Reviews & Implementation Reports, 11*(2), 330-342. Retrieved from http://ezproxy.bangor.ac.uk/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=113575968&site=ehost-live	Irrelevant

Hall, S., Kolliakou, A., Petkova, H., Froggatt, K., & Higginson, I. J. (2011). Interventions for improving palliative care for older people living in nursing care homes. *Cochrane Database of Systematic Reviews*, (3) doi:10.1002/14651858.CD007132.pub2	Irrelevant
Health Quality Ontario. (2008a). Prevention of falls and fall-related injuries in community-dwelling seniors: An evidence-based analysis. *Ontario Health Technology Assessment Series*, *8*(2), 1-78. Retrieved from https://www.ncbi.nlm.nih.gov/	Irrelevant
Health Quality Ontario. (2008b). Social isolation in community-dwelling seniors: An evidence-based analysis.*Ontario Health Technology Assessment Series*, *8*(5), 1-49. Retrieved from https://www.ncbi.nlm.nih.gov/	Irrelevant
Hill, K. D., Hunter, S. W., Batchelor, F. A., Cavalheri, V., & Burton, E. (2015). Individualized home-based exercise programs for older people to reduce falls and improve physical performance: A systematic review and meta-analysis. *Maturitas*, *82*(1), 72-84. doi:10.1016/j.maturitas.2015.04.005	Irrelevant
Hofmann, H., & Hahn, S. (2014). Characteristics of nursing home residents and physical restraint: A systematic literature review. *Journal of Clinical Nursing*, *23*(21-22), 3012-3024. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1111/jocn.12384	Irrelevant
Hurley, R. V. C., Patterson, T. G., & Cooley, S. J. (2014). Meditation-based interventions for family caregivers of people with dementia: A review of the empirical literature. *Aging & Mental Health*, *18*(3), 281-288. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1080/13607863.2013.837145	Ineligible intervention
International handbook of positive aging (2017). . New York, NY, US, US: Routledge/Taylor & Francis Group, New York, NY. Retrieved from https://search-proquest-com.ezproxy.bangor.ac.uk/docview/2058446165?accountid=14874	Irrelevant
ISRCTN11892249. (2018). Memory intervention with nutrition for dementia (re-MIND). Retrieved from https://www.cochranelibrary.com/central/doi/10.1002/central/CN-01616768/full	Irrelevant
Koch, S., Haesler, E., Tiziani, A., & Wilson, J. (2006). Effectiveness of sleep management strategies for residents of aged care facilities: Findings of a systematic review. *Journal of Clinical Nursing*, *15*(10), 1267-1275. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1111/j.1365-2702.2006.01385.x	Ineligible publication year
Konno, R., Kang, H. S., & Makimoto, K. (2012). The best evidence for minimizing resistance-to-care during assisted personal care for older adults with dementia in nursing homes: A systematic review. *JBI Library of Systematic Reviews*, *10*(58), 4622-4632. doi:10.11124/jbisrir-2012-431	Irrelevant
Kruger, W. A., Thompson, C. E., McKenzie, R. A., & Naccarella, L. (2007). Well for life: A way of life. *Annals of the New York Academy of Sciences*, *1114*, 337-342. doi:10.1196/annals.1396.034	Ineligible publication year

Lee, S. H., & Kim, H. S. (2017). Exercise interventions for preventing falls among older people in care facilities: A meta-analysis. *Worldviews on Evidence-Based Nursing, 14*(1), 74-80. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1111/wvn.12193	Irrelevant
Leung, F. W., & Schnelle, J. F. (2008). Urinary and fecal incontinence in nursing home residents. *Gastroenterology Clinics of North America, 37*(3), 707, x. doi:10.1016/j.gtc.2008.06.005	Irrelevant
Lim, W. S., Chong, M. S., & Sahadevan, S. (2007). Utility of the clinical dementia rating in asian populations. *Clinical Medicine & Research, 5*(1), 61-70. doi:10.3121/cmr.2007.693	Ineligible publication year
Liu, Z., Sun, Y. Y., & Zhong, B. L. (2018). Mindfulness-based stress reduction for family carers of people with dementia. *Cochrane Database of Systematic Reviews,* (8) doi:10.1002/14651858.CD012791.pub2	Irrelevant
MacAndrew, M., Brooks, D., & Beattie, E. (2018). NonPharmacological interventions for managing wandering in the community: A narrative review of the evidence base. *Health & Social Care in the Community,* doi:10.1111/hsc.12590	Irrelevant
McGrattan, M., Barry, H., Ryan, C., Cooper, J., Passmore, P., Robinson, L., . . . Hughes, C. (2016). The development of a core outcome set for medicines management interventions in people with dementia. *International Journal of Pharmacy Practice.Conference: Royal Pharmaceutical Society, RPS Annual Conference 2016.United Kingdom, 24,* 75. doi:10.1111/ijpp.12289/full	Irrelevant
Messinger-Rapport, B. J., Gammack, J. K., Thomas, D. R., & Morley, J. E. (2013). Clinical update on nursing home medicine: 2013. *Journal of the American Medical Directors Association, 14*(12), 860-876. doi:10.1016/j.jamda.2013.09.015	Irrelevant
Mestre, T. A., & Shannon, K. (2017). Huntington disease care: From the past to the present, to the future.*Parkinsonism & Related Disorders, 44,* 114-118. doi:10.1016/j.parkreldis.2017.08.009	Irrelevant
Moskowitz, C. B., & Marder, K. (2001). Palliative care for people with late-stage huntington's disease. *Neurologic Clinics, 19*(4), 849-865. Retrieved from https://www.ncbi.nlm.nih.gov/	Ineligible publication year
Moskowitz, C. B., & Rao, A. K. (2017). Making a measurable difference in advanced huntington disease care.*Handbook of Clinical Neurology, 144,* 183-196. doi:10.1016/B978-0-12-801893-4.00016-X	Irrelevant
NCT02927821. (2016). Improving outcome for family caregivers of older adults with complex conditions: The adult day plus (ADS plus) program. *Https://Clinicaltrials.Gov/show/nct02927821,* Retrieved from https://www.cochranelibrary.com/central/doi/10.1002/central/CN-01521429/full	Irrelevant

Noonan, V. K., Kopec, J. A., Noreau, L., Singer, J., & Dvorak, M. F. (2009). A review of participation instruments based on the international classification of functioning, disability and health. *Disability and Rehabilitation: An International, Multidisciplinary Journal, 31*(23), 1883-1901. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1080/09638280902846947	Irrelevant
O'Connor, D. W., Ames, D., Gardner, B., & King, M. (2009). Psychosocial treatments of psychological symptoms in dementia: A systematic review of reports meeting quality standards. *International Psychogeriatrics, 21*(2), 241-251. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1017/S1041610208008223	Irrelevant
Oliver, D., Connelly, J. B., Victor, C. R., Shaw, F. E., Whitehead, A., Genc, Y., . . . Gosney, M. A. (2007). Strategies to prevent falls and fractures in hospitals and care homes and effect of cognitive impairment: Systematic review and meta-analyses. *BMJ: British Medical Journal, 334*(7584), 82. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1136/bmj.39049.706493.55	Ineligible publication year
Pain management yearbook, 2010 (2011). . Hauppauge, NY, US, US: Nova Science Publishers, Hauppauge, NY. Retrieved from https://search-proquest-com.ezproxy.bangor.ac.uk/docview/1536033611?accountid=14874	Irrelevant
Price, J. D., Hermans, D. G., & Grimley Evans J, n. (2000). Subjective barriers to prevent wandering of cognitively impaired people. *The Cochrane Database of Systematic Reviews*, (4), CD001932. doi:10.1002/14651858.CD001932	Ineligible publication year
Proceedings of the 3rd IPLeiria's international health congress : Leiria, portugal. 6-7 may 2016. (2016). *BMC Health Services Research, 16 Suppl 3*, 200. doi:10.1186/s12913-016-1423-5	Insufficient information
Rosen, T., Lachs, M. S., & Pillemer, K. (2010). Sexual aggression between residents in nursing homes: Literature synthesis of an underrecognized problem. *Journal of the American Geriatrics Society, 58*(10), 1970-1979. doi:10.1111/j.1532-5415.2010.03064.x	Irrelevant
Sawka, A. M., Ismaila, N., Cranney, A., Thabane, L., Kastner, M., Gafni, A., . . . Papaioannou, A. (2010). A scoping review of strategies for the prevention of hip fracture in elderly nursing home residents. *PloS One, 5*(3), e9515. doi:10.1371/journal.pone.0009515	Irrelevant
Schnelle, J. F., & Leung, F. W. (2004). Urinary and fecal incontinence in nursing homes. *Gastroenterology, 126*(1 Suppl 1), 41. Retrieved from https://www.ncbi.nlm.nih.gov/	Ineligible publication year
Simning, A., & Simons, K. V. (2017). Treatment of depression in nursing home residents without significant cognitive impairment: A systematic review. *International Psychogeriatrics, 29*(2), 209-226. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1017/S1041610216001733	Irrelevant
Stoppe, G., Brandt, C. A., & Staedt, J. H. (1999). Behavioural problems associated with dementia: The role of newer antipsychotics. *Drugs & Aging, 14*(1), 41-54. Retrieved from https://www.ncbi.nlm.nih.gov/	Ineligible publication year

Streim, J. E., & Katz, I. R. (1994). Federal regulations and the care of patients with dementia in the nursing home.*The Medical Clinics of North America, 78*(4), 895-909. Retrieved from https://www.ncbi.nlm.nih.gov/	Ineligible publication year
Tederko, P., Krasuski, M., & Szczypiorowska, B. G. (2014). Non-pharmacological pain therapies in long-term care residents: A systemic review of literature. *Journal of Pain Management, 7*(1), 37-46. Retrieved from https://search-proquest-com.ezproxy.bangor.ac.uk/docview/1805776819?accountid=14874	Irrelevant
Tederko, P., Krasuski, M., & Szczypiorowska, B. G. (2015). In Merrick J. (Ed.), *Non-pharmacological pain therapies in long-term care residents: An updated systemic review of literature*. Hauppauge, NY, US, US: Nova Biomedical Books, Hauppauge, NY. Retrieved from https://search-proquest-com.ezproxy.bangor.ac.uk/docview/1727665151?accountid=14874	Irrelevant
Thakur, M., & Blazer, D. G. (2008). Depression in long-term care. *Journal of the American Medical Directors Association, 9*(2), 82-87. doi:10.1016/j.jamda.2007.09.007	Irrelevant
Timmins, J. (2008). Compliance with best practice: Implementing the best available evidence in the use of physical restraint in residential aged care. *International Journal of Evidence-Based Healthcare, 6*(3), 345-350. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1111/j.1744-1609.2008.00105.x	Irrelevant
Tiryaki, E., & Horak, H. A. (2014). ALS and other motor neuron diseases. *Continuum (Minneapolis, Minn.), 20*(5 Peripheral Nervous System Disorders), 1185-1207. doi:10.1212/01.CON.0000455886.14298.a4	Irrelevant
Toot, S., Devine, M., & Orrell, M. (2011). The effectiveness of crisis resolution/home treatment teams for older people with mental health problems: A systematic review and scoping exercise. *International Journal of Geriatric Psychiatry, 26*(12), 1221-1230. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1002/gps.2686	Irrelevant
Toot, S., Swinson, T., Devine, M., Challis, D., & Orrell, M. (2017). Causes of nursing home placement for older people with dementia: A systematic review and meta-analysis. *International Psychogeriatrics, 29*(2), 195-208. doi:10.1017/S1041610216001654	Irrelevant
Travers, C., MacAndrew, M., Hines, S., O'Reilly, M., Fielding, E., Beattie, E., & Brooks, D. (2015). The effectiveness of meaningful occupation interventions for people living with dementia in residential aged care: A systematic review protocol. *JBI Database of Systematic Reviews and Implementation Reports, 13*(4), 87-99. doi:10.11124/jbisrir-2015-2058	Ineligible intervention
Tubiana, M. (2002). [The aged: Medical and social aspects]. *Comptes Rendus Biologies, 325*(6), 699-717. Retrieved from https://www.ncbi.nlm.nih.gov/	Ineligible publication year
van, d. S., Smaling, H., van, d. W., Bruinsma, M. S., Scholten, R., & Vink, A. C. (2018). Music-based therapeutic interventions for people with dementia. *Cochrane Database of Systematic Reviews,* (7) doi:10.1002/14651858.CD003477.pub4	Ineligible intervention

Verbeek, H., van Rossum, E., Zwakhalen, S. M., Kempen, G. I., Hamers, J. P., Verbeek, H., . . . Hamers, J. P. H. (2009). Small, homelike care environments for older people with dementia: A literature review. *International Psychogeriatrics, 21*(2), 252-264. doi:10.1017/S104161020800820X	Irrelevant
Verbeek, H., van Rossum, E., Zwakhalen, S. M. C., Kempen, Gertrudis I. J. M., & Harriers, J. P. H. (2009). Small, homelike care environments for older people with dementia: A literature review. *International Psychogeriatrics, 21*(2), 252-264. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1017/S104161020800820X	Irrelevant
Vu, M. Q., Weintraub, N., & Rubenstein, L. Z. (2004). Falls in the nursing home: Are they preventable? *Journal of the American Medical Directors Association, 5*(6), 401-406. doi:10.1097/01.JAM.0000144553.45330.AD	Ineligible publication year
Wong, A., Goh, G., Banks, M. D., & Bauer, J. D. (2018). A systematic review of the cost and economic outcomes of home enteral nutrition. *Clinical Nutrition (Edinburgh, Scotland), 37*(2), 429-442. doi:10.1016/j.clnu.2017.06.019	Irrelevant
Wong, C., & Leland, N. E. (2016). Non-pharmacological approaches to reducing negative behavioral symptoms: A scoping review. *OTJR: Occupation, Participation and Health, 36*(1), 34-41. doi:10.1177/1539449215627278	Irrelevant
Yuet, Y. W. (2017). The effectiveness of an educational intervention on managing feeding difficulties for residents with dementia. *Effectiveness of an Educational Intervention on Managing Feeding Difficulties for Residents with Dementia,* , 1. Retrieved from http://ezproxy.bangor.ac.uk/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=130390991&site=ehost-live	Irrelevant

Excluded from abstract with reasons (18)

Reference of excluded study	Reason for exclusion
Anderiesen, H., Scherder, E. J. A., Goossens, R. H. M., & Sonneveld, M. H. (2014). A systematic review—Physical activity in dementia: The influence of the nursing home environment. *Applied Ergonomics, 45*(6), 1678-1686. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1016/j.apergo.2014.05.011	Ineligible intervention
Burton, E., Cavalheri, V., Adams, R., Browne, C. O., Bovery-Spencer, P., Fenton, A. M., . . . Hill, K. D. (2015). Effectiveness of exercise programs to reduce falls in older people with dementia living in the community: A systematic review and meta-analysis. *Clinical Interventions in Aging, 10*, 421-434. doi:10.2147/CIA.S71691	Irrelevant
Burton, E., Lewin, G., & Boldy, D. (2015). A systematic review of physical activity programs for older people receiving home care services. *Journal of Aging & Physical Activity, 23*(3), 460-470. doi:10.1123/japa.2014-0086	Ineligible study population
Clarkson, P., Hughes, J., Roe, B., Giebel, C. M., Jolley, D., Poland, F., . . . Members of the HoSt-D (Home Support in Dementia) Programme, Management Group. (2018). Systematic review: Effective home support in dementia care, components and impacts – stage 2, effectiveness of home support interventions. *Journal of Advanced Nursing, 74*(3), 507-527. doi:10.1111/jan.13460	Irrelevant

Conn, D. K., & Seitz, D. P. (2010). Advances in the treatment of psychiatric disorders in long-term care homes.*Current Opinion in Psychiatry, 23*(6), 516-521. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1097/YCO.0b013e32833efe56	Insufficient information of physical activity intervention (includes a variety of non-physical activity interventions too)
Cooper, C., Mukadam, N., Katona, C., Lyketsos, C. G., Ames, D., Rabins, P., . . . Livingston, G. (2012). Systematic review of the effectiveness of non-pharmacological interventions to improve quality of life of people with dementia.*International Psychogeriatrics, 24*(6), 856-870. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1017/S1041610211002614	Ineligible intervention
Iliffe, S., Wilcock, J., Drennan, V., Goodman, C., Griffin, M., Knapp, M., . . . Warner, J. (2015). *Changing practice in dementia care in the community: Developing and testing evidence-based interventions, from timely diagnosis to end of life (EVIDEM)*. Southampton (UK): NIHR Journals Library. Retrieved from http://www.ncbi.nlm.nih.gov/books/NBK286118/	Ineligible study design
King, A., Chadborn, N., Gordon, A., Gladman, J., & Logan, P. (2016). Rehabilitation for outdoor activities and mobility in care homes: The ROAM study...college of occupational therapists 40th annual conference and exhibition and the specialist section - trauma and orthopaedics annual conference, 28-30 june 2016 - harrogate, england.*British Journal of Occupational Therapy, 79*, 129-130. Retrieved from http://ezproxy.bangor.ac.uk/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=117819587&site=ehost-live	Ineligible study design
Legere, L. E., McNeill, S., Schindel Martin, L., Acorn, M., & An, D. (2018). Nonpharmacological approaches for behavioural and psychological symptoms of dementia in older adults: A systematic review of reviews. *Journal of Clinical Nursing, 27*(7), e1376. doi:10.1111/jocn.14007	Ineligible intervention
McCabe, M., You, E., & Tatangelo, G. (2016). Hearing their voice: A systematic review of dementia family caregivers' needs. *The Gerontologist, 56*(5), e88. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1093/geront/gnw078	Irrelevant
NCT02585232. (2015). Optimizing dementia care. *Https://Clinicaltrials.Gov/show/nct02585232*, Retrieved from https://www.cochranelibrary.com/central/doi/10.1002/central/CN-01493204/full	Irrelevant
Orgeta, V., & Miranda-Castillo, C. (2014). Does physical activity reduce burden in carers of people with dementia? A literature review. *International Journal of Geriatric Psychiatry, 29*(8), 771-783. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1002/gps.4060	Ineligible study population
Riesch, J., Meyer, L., Lehr, B., & Severin, T. (2018). Dementia-specific training for nursing home staff: A systematic literature review. *Zeitschrift Für Gerontologie Und Geriatrie, 51*(5), 523-529. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1007/s00391-017-1296-1	Ineligible study population

Stubbs, B., Eggermont, L., Soundy, A., Probst, M., Vandenbulcke, M., & Vancampfort, D. (2014). What are the factors associated with physical activity (PA) participation in community dwelling adults with dementia? A systematic review of PA correlates. *Archives of Gerontology and Geriatrics, 59*(2), 195-203. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1016/j.archger.2014.06.006	Irrelevant
Trahan, M. A., Kuo, J., Carlson, M. C., & Gitlin, L. N. (2014). A systematic review of strategies to foster activity engagement in persons with dementia. *Health Education & Behavior, 41*(1, Suppl), 83S. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1177/1090198114531782	Irrelevant
van, d. B., Gerritsen, D. L., de Valk, Miranda M. H., Mulder, A. T., Oude Voshaar, R. C., & Koopmans, Raymond T. C. M. (2018). What do nursing home residents with mental-physical multimorbidity need and who actually knows this? A cross-sectional cohort study. *International Journal of Nursing Studies, 81*, 89-97. doi:10.1016/j.ijnurstu.2018.02.008	Ineligible study design
Woodbridge, R., Sullivan, M. P., Harding, E., Crutch, S., Gilhooly, K. J., Gilhooly, M. L. M., . . . Wilson, L. (2018). Use of the physical environment to support everyday activities for people with dementia: A systematic review.*Dementia: The International Journal of Social Research and Practice, 17*(5), 533-572. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1177/1471301216648670	Ineligible study intervention
Zieschang, T., Hauer, K., & Schwenk, M. (2012). [Physical exercise in patients with dementia]. *Deutsche Medizinische Wochenschrift (1946), 137*(31-32), 1552-1555. doi:10.1055/s-0032-1305114	Insufficient information

Excluded from full-text with reasons (13)

Reference of excluded study	**Reason for exclusion**
ACTRN12617000496314. (2017). Behavioural and psychological symptoms of dementia in residential care: Efficacy of an education and non-pharmacological intervention program. Retrieved from https://www.cochranelibrary.com/central/doi/10.1002/central/CN-01456941/full	Ineligible intervention
Bourgeois, M. S., Brush, J., Elliot, G., & Kelly, A. (2015). Join the revolution: How montessori for aging and dementia can change long-term care culture. *Seminars in Speech and Language, 36*(3), 209-214. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1055/s-0035-1554802	Ineligible intervention
Cendoroglo, M. S. (2014). Exercise programs for people with dementia. *Sao Paulo Medical Journal = Revista Paulista De Medicina, 132*(3), 195-196. Retrieved from https://www.ncbi.nlm.nih.gov/	Another version of an existing review
Cooper, C., Mukadam, N., Katona, C., Lyketsos, C. G., Ames, D., Rabins, P., . . . World Federation of Biological Psychiatry – Old Age Taskforce. (2012). Systematic review of the effectiveness of non-pharmacological interventions to improve quality of life of people with dementia. *International Psychogeriatrics, 24*(6), 856-870. doi:10.1017/S1041610211002614	Insufficient information of exercise intervention

Dahm, K. T., Dalsbø, T. K., Håvelsrud, K., & Reinar, L. M. (2014). *Effect of physical activity and other care interventions for people with dementia*. Oslo, Norway: Knowledge Centre for the Health Services at The Norwegian Institute of Public Health (NIPH). Retrieved from http://www.ncbi.nlm.nih.gov/books/NBK464907/	Ineligible intervention
Forbes, D., Thiessen, E. J., Blake, C. M., Forbes, S. C., & Forbes, S. (2013). Exercise programs for people with dementia. *The Cochrane Database of Systematic Reviews*, (12), CD006489. doi:10.1002/14651858.CD006489.pub3	Updated version of review available
G., W., & E., R. (2017). Wide awake club: Engaging care home residents with dementia in night-time social activities...RCOT (royal college of occupational therapist) annual conference 2017. *British Journal of Occupational Therapy*, *80*, 45-46. Retrieved from http://ezproxy.bangor.ac.uk/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=125557479&site=ehost-live	Ineligible outcome measures
Guzmán-García, A., Hughes, J. C., James, I. A., & Rochester, L. (2013). Dancing as a psychosocial intervention in care homes: A systematic review of the literature. *International Journal of Geriatric Psychiatry*, *28*(9), 914-924. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1002/gps.3913	Ineligible intervention (purely only dancing which could be considered as its own category)
Hulme, C., Wright, J., Crocker, T., Oluboyede, Y., & House, A. (2010). Non-pharmacological approaches for dementia that informal carers might try or access: A systematic review. *International Journal of Geriatric Psychiatry*, *25*(7), 756-763. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1002/gps.2429	Insufficient information of exercise intervention
Jing, W., Willis, R., & Feng, Z. (2016). Factors influencing quality of life of elderly people with dementia and care implications: A systematic review. *Archives of Gerontology and Geriatrics*, *66*, 23-41. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1016/j.archger.2016.04.009	Insufficient information of physical activity intervention
Tadros, G., Ormerod, S., Dobson-Smyth, P., Gallon, M., Doherty, D., Carryer, A., . . . Kingston, P. (2013). The management of behavioural and psychological symptoms of dementia in residential homes: Does tai chi have any role for people with dementia? *Dementia (London, England)*, *12*(2), 268-279. doi:10.1177/1471301211422769	Ineligible intervention (purely only tai-chi and some meditation which could be considered as its own category)
Whear, R., Coon, J. T., Bethel, A., Abbott, R., Stein, K., & Garside, R. (2014). What is the impact of using outdoor spaces such as gardens on the physical and mental well-being of those with dementia? A systematic review of quantitative and qualitative evidence. *Journal of the American Medical Directors Association*, *15*(10), 697-705. doi:10.1016/j.jamda.2014.05.013	Ineligible intervention
Windle, G., Hughes, D., Linck, P., Russell, I., & Woods, B. (2010). Is exercise effective in promoting mental well-being in older age? A systematic review. *Aging & Mental Health*, *14*(6), 652-669. doi://dx.doi.org.ezproxy.bangor.ac.uk/10.1080/13607861003713232	Ineligible study population

Appendix C: Ethical Approval Letter

Ymchwil Iechyd a Gofal Cymru
Health and Care Research Wales

Gwasanaeth Moeseg Ymchwil
Research Ethics Service

Ariennir gan Lywodraeth Cymru
Funded by Welsh Government

Wales Research Ethics Committee 5
Bangor

Mailing address:
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email: WalesREC5@wales.nhs.uk
website: ww.hra.nhs.uk

28 February 2019

Dr Katherine Algar-Skaife
Dementia Services Development Centre
Bangor University
Ardudwy, Normal Site,
Bangor
LL57 2PZ

Dear Dr Katherine Algar-Skaife

Study title:	**What is the impact of DementiaGo in residential homes on residents, relatives and staff?**
REC reference:	**19/WA/0067**
IRAS project ID:	**254372**

The Research Ethics Committee reviewed the above application at the meeting held on 21 February 2019. Thank you for attending to discuss the application.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this favourable opinion letter. The expectation is that this information will be published for all studies that receive an ethical opinion but should you wish to provide a substitute contact point, wish to make a request to defer, or require further information, please contact hra.studyregistration@nhs.net outlining the reasons for your request.
Under very limited circumstances (e.g. for student research which has received an unfavourable opinion), it may be possible to grant an exemption to the publication of the study.

Ethical opinion

The members of the Committee present gave a favourable ethical opinion of the above research on the basis described in the application form, protocol and supporting documentation, subject to the conditions specified below. .

Mental Capacity Act 2005

I confirm that the Committee has approved this research project for the purposes of the Mental Capacity Act 2005. The Committee is satisfied that the requirements of section 31 of the Act will be met in relation to research carried out as part of this project on, or in relation to, a person who lacks capacity to consent to taking part in the project.

Conditions of the favourable opinion

The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

The Committee made the following recommendation:

In paragraph "Who is organising and funding the research?", the Welsh language translation of the first sentence should be removed.

This is a **recommendation** only, not a condition of the ethical opinion, and the REC does not require perusal of the amended documentation.

Management permission must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements. Each NHS organisation must confirm through the signing of agreements and/or other documents that it has given permission for the research to proceed (except where explicitly specified otherwise).

Guidance on applying for HRA and HCRW Approval (England and Wales)/ NHS permission for research is available in the Integrated Research Application System, at www.hra.nhs.uk or at http://www.rdforum.nhs.uk.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of management permissions from host organisations.

Registration of Clinical Trials

All clinical trials (defined as the first four categories on the IRAS filter page) must be registered on a publically accessible database. This should be before the first participant is recruited but no later than 6 weeks after recruitment of the first participant.

There is no requirement to separately notify the REC but you should do so at the earliest opportunity e.g. when submitting an amendment. We will audit the registration details as part of the annual progress reporting process.

To ensure transparency in research, we strongly recommend that all research is registered but for non-clinical trials this is not currently mandatory.

If a sponsor wishes to request a deferral for study registration within the required timeframe, they should contact hra.studyregistration@nhs.net. The expectation is that all clinical trials will be registered, however, in exceptional circumstances non registration may be permissible with prior agreement from the HRA. Guidance on where to register is provided on the HRA website.

The sponsor is asked to provide the Committee with a copy of the notice from the MHRA, either confirming no objection or giving grounds for objection, as soon as this is available.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Extract of the meeting minutes

The Chairman welcomed the applicants and introduced the Committee members.
The following issues were discussed:

Social or scientific value; scientific design and conduct of the study
No ethical issues were raised.

Relevance of the research to the impairing condition
The Committee agreed the research is connected with an impairing condition affecting persons lacking capacity or with the treatment of the condition.

Justification for including adults lacking capacity to meet the research objectives
The Committee requested a clarification in relation to the delivery of the DementiaGo programme to patients who lack capacity and therefore the relevance of including these patients in the study.

Dr Algar clarified that the intervention takes place in residential home and would not want to exclude potential participants with a diagnosis of dementia and lack of capacity; the aim of the study is to identify the benefits of the programme in a range of participants with and without dementia - and whether there are particular benefits that participants with dementia who lack capacity may derive from DemetiaGo.

The Committee agreed the research could not be carried out as effectively if it was confined to participants able to give consent.

Informed Consent process and the adequacy and completeness of participant information
The Committee noted that the paragraph "What is the purpose of the study?" discusses the benefits of the DementiaGo programme, and less explicitly the benefits of taking part in this study.

Dr Algar clarified that it is unlikely that the participants will derive any direct benefit from taking part in the study, but there would be physical activity well-being and quality of life improvements form taking part in the programme.

In paragraph "Who is organising and funding the research?", the Welsh language translation of the first sentence has been presented, and this will need to be removed.

The Committee queried the relevance of collecting socio-demographic data from relatives.

Dr Algar clarified that this will give the research team the relevant information on the demographic characteristics of people with whom participants interact.

The Committee noted that the IRAS form states that if participants lose capacity they will be withdrawn from the study but data will be retained.

Dr Algar confirmed that this has been ticked in error, the right course of action is to keep the participants in the study and approach a Consultee.

Information for consultees
The Committee reviewed the information to be provided to consultees about the proposed research and their role and responsibilities as a consultee.
The Committee was satisfied that the information was adequate to enable consultees to give informed advice about the participation of persons lacking capacity.

The Committee thanked Dr Algar and Ms Roberts for their availability to speak to this submission and gave them an opportunity to ask questions.
The applicants did not raise any issues.

Other ethical issues were raised and resolved in preliminary discussion before your attendance at the meeting.

No ethical issues where raised in relation to the following

- Recruitment arrangements and access to health information; fair participant selection

  Arrangements for appointing consultees
  The Committee considered the arrangements set out in the application for appointing consultees under Section 32 of the Mental Capacity Act to advise on whether participants lacking capacity should take part and on what their wishes and feelings would be likely to be if they had capacity.
  After discussion the Committee agreed that reasonable arrangements were in place for identifying personal consultees and for nominated consultees independent of the project where no person can be identified to act as a personal consultee.

- Favourable risk benefit ratio; anticipated benefit/risks for research participants

  Balance between benefit and risk, burden and intrusion
  The Committee noted that while the research would not benefit participants lacking capacity it is intended to provide knowledge of the treatment or care of patients with dementia.
  After discussion, the Committee agreed that the risk to participants is likely to be negligible and the research will not significantly interfere with their freedom of action or privacy or be unduly invasive or restrictive.

  The Committee decided that the research did not require Site-Specific Assessment at non-NHS sites as it involves no clinical interventions and all study procedures at sites would be undertaken by the Chief Investigator's team.

  Care and protection of research participants; respect for participants' welfare and dignity; data protection and confidentiality

  Additional safeguards
  The Committee was satisfied that reasonable arrangements would be in place to comply with the additional safeguards set out in Section 33 of the Mental Capacity Act.

- Suitability of the applicant and supporting staff

- Independent review

- Suitability of supporting information

- Other study procedures

- Other general comments missing information/ typographical errors/ application errors

- Suitability of the study summary
  The summary of the study as it appears in section A6-1 of the application form was deemed to be an accurate description of the study and suitable for publication on the HRA website.

Please contact the REC Manager if you feel that the above summary is not an accurate reflection of the discussion at the meeting.

Approved documents

The documents reviewed and approved at the meeting were:

Document	*Version*	*Date*
Copies of advertisement materials for research participants [Poster for care homes]	Version 1	21 January 2019
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Sponsor Indemnity]	-	02 July 2018
Interview schedules or topic guides for participants [Topic Guide - resident version]	Version 2	04 October 2018
Interview schedules or topic guides for participants [Topic Guide - relative version]	Version 2	04 October 2018
Interview schedules or topic guides for participants [Topic Guide - staff version]	Version 2	04 October 2018
Non-validated questionnaire [Demographic form - resident version]	Version 1	04 October 2018
Non-validated questionnaire [Demographic form - relative version]	Version 1	04 October 2018
Non-validated questionnaire [Demographic form - staff version]	Version 1	04 October 2018
Other [Checklist for assessing capacity]	Version 1	23 January 2019
Participant consent form [Participant Consent Form]	Version 2	13 January 2019
Participant consent form [Consultee Declaration Form]	Version 2	13 January 2019
Participant information sheet (PIS) [Participant Information Sheet]	Version 2	13 January 2019
Participant information sheet (PIS) [Consultee Information Sheet]	Version 2	13 January 2019
REC Application Form [REC_Form_04022019]		04 February 2019
Research protocol or project proposal [DementiaGO Protocol]	Version 3	23 January 2019
Summary CV for Chief Investigator (CI) [CV for Chief Investigator]	-	-
Summary CV for student [CV for Student]	-	-

Membership of the Committee

The members of the Ethics Committee who were present at the meeting are listed on the attached sheet.

No declarations of interest have been made in relation to this application

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The HRA website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/

HRA Training

We are pleased to welcome researchers and R&D staff at our training days – see details at http://www.hra.nhs.uk/hra-training/

19/WA/0067	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project.

Yours sincerely

Dr Philip Wayman White, MBChB, FRSM
General Practitioner
Chair Wales REC 5

E-mail: WalesREC5@wales.nhs.uk

Enclosures: *List of names and professions of members who were present at the meeting and those who submitted written comments*

"After ethical review – guidance for researchers"

SL-AR2 After ethical review - research oth

Wales Research Ethics Committee 5

Attendance at Committee meeting on 21 February 2019

Committee Members

Name	*Profession*	*Capacity*	*Present*
Dr Swapna Alexander	Consultant Physician	Expert	Yes
Mrs Kathryn Chester	Research Nurse	Expert	No
Dr Giovanni d'Avossa	Consultant Neurologist	Expert	Yes
Ms Geraldine Jenson	Retired College Vice-Principal	Lay +	No
Mr David Rhys Jones	Retired Teacher	Lay +	Yes
Mr Eliezer Lichtenstein	Student	Lay +	No
Dr Pamela A Martin-Forbes	Clinical Studies Officer	Expert	Yes
Dr Paul G Mullins	Reader, Senior MRI Physicist	Lay +	Yes
Mr Vishwanath Puranik	Consultant ENT Surgeon	Expert	Yes
Mrs Lynn C Roberts	Matron, Emergency Department	Expert	Yes
Dr Judith L Roberts	Lecturer, Clinical Psychologist	Expert	Yes
Dr Jason D Walker	Consultant Anaesthetist (Vice-Chair)	Expert	Yes
Dr Philip W White	General Practitioner (Chairman)	Expert	Yes
Ms Sydna A Williams	Retired Lecturer, College Principal	Lay +	No

In attendance

Name	*Position (or reason for attending)*
Dr Rossela Roberts	Research Ethics Service Manager
Mr Norbert Leon Ciumageanu	RES Administrative Assistant

Appendix D: Participants Information Sheet

What is the impact of DementiaGo in residential homes on those living, working, and visiting residential homes?

Participant information sheet

SUMMARY

Invitation to participate in a research study

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Thank you for reading this information sheet.

Why have I been invited?

You have been invited to take part because you are living, working in, or regularly visit a residential home that is taking part in this evaluation of DementiaGo in residential homes. We are looking for 4 residents, 4 regular relative / close friend visitors, and 4 members of staff to take part from the home.

What do I have to do?

This study is an evaluation of the impact of DementiaGo in residential homes in Gwynedd. If you do decide to take part, your participation in the study will consist of one visit from the researcher.

After you have had a chance to ask the researcher any questions, and have signed a consent form, we will ask you to:

1.) Fill in a short form giving us some background information about you. If you are living in the residential home the researcher would like to look at your care plan so we have an understanding of your health and care needs.

2.) Meet with a researcher to tell them your views on your day-to-day life in the residential home and whether you have noticed a change after the home has taken part in DementiaGo. We will tape record the conversation so that we can talk with you without having to write everything down. If you would prefer not to be tape-recorded, you will be given the opportunity to opt out. We estimate it will take around an hour but you may take as many breaks as you want or feel necessary. You can complete the process over two sessions on the same day or at a later date if you prefer. Things that you say may be used in the final report and in journal articles but it will not be linked to your name and you will not be identifiable.

3.) Allow the researcher to take notes while you are going about your day in the residential home. We will only be present in a public place such as the lounge. We will not come into bedrooms or any other private places. We will stay out of your way, and make sure no disruption to your day occurs. This will help build up a picture of everyday life in the home.

We will tape record our interviews to help us analyse the data. With your permission, we may also use the recordings in presentations when sharing the results of the research, to support future research projects or for training purposes, but your real name will never be given. If you are not happy for this to happen, you will have the opportunity to opt out of any tape recording.

ADDITIONAL INFORMATION

What is the purpose of the study?

The WHO Global Recommendations on Physical Activity recommend at least 150 minutes a week of physical activity for adults aged over 65 (WHO, 2010). However, evidence suggests that residents in care home settings spend the majority of their day in a sedentary state with little interaction with care staff (Sackley et al., 2006). This can have an adverse effect on the physical and psychological health, as well as the quality of life of residents (Forster et al., 2017). However, research indicates that a low level of exercise or physical activity can improve the mental well-being of older people (Windle, 2014). DementiaGo will therefore aim to increase the physical activity of residents in residential care home across Gwynedd, and in turn improve the well-being and quality of life of residents.

This study is part of an educational Masters by Research project being undertaken by Ms Lia Roberts.

Do I have to take part?

No, it is your choice whether you take part. And it is ok if you don't want to take part. If you say yes now, you can change your mind at any time without giving a reason. Deciding not to take part or to stop part way through will not affect the standard of care you receive.

If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form.

What are the possible disadvantages and risks of taking part?

We do not anticipate any disadvantages or risks arising from participation in this study.

The project team will have a duty of care to the residents and there will be a protocol in place to report any incident of poor practice observed.

What are the possible benefits to taking part?

It is hoped that by engaging with DementiaGo, residents will be encourage to move more during their day which in turn will increase their quality of life.

The results of this research are intended to contribute towards improving residential care in the future.

Will my taking part in the study be kept confidential?

Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. All data is stored without any identifying details under secure conditions. The only people who will have access to view identifiable data are the research team.

Confidentiality would only ever be broken if there was a concern that you might be at risk of harm.

What will happen if I don't want to carry on with the study?

You will be free to withdraw from the study at any time, without giving a reason. Withdrawing from the study will not affect the standard of care you receive. You will have the option of any data collected up to that point of withdrawal not to be used in the study.

What if there is a problem?

If you are unhappy or dissatisfied with any aspect of your participation, we would ask you first to speak to one of the research team, so that we can try to address your concerns and find a solution. You can talk to the researcher or to Professor Gill Windle, the academic supervisor (see contact details below). If you are not satisfied with our response you can make a complaint to Dr Huw Roberts (see contact details below).

What will happen to the results of the research project?

The results of the research project will be published in relevant academic journals. At the end of the project the researcher will hold a meeting in each participating care home for those living, working and regularly visiting the home to share the results. No participants will be identified in any publication arising from the study without their written consent. We will make arrangements for participants to be informed of the findings of the study where desired.

Who is organising and funding the research?

The research is funded by KESS 2 and DementiaGo.

Knowledge Economy Skills Scholarships (KESS 2) is a pan-Wales higher level skills initiative led by Bangor University on behalf of the HE sector in Wales. It is part funded by the Welsh Government's European Social Fund (ESF) convergence programme for West Wales and the Valleys.

Who has reviewed this study?

All research is looked at by an independent group of people called a Research Ethics Committee to protect your safety, rights, well-being, and dignity. This study has been reviewed and given favourable opinion by the Bangor University's Health and Medical Science Academic Ethics Committee and Wales Research Ethics Committee (REC) 5.

How will my personal data be used and what are my rights?

Bangor University is the sponsor for this study based in Gwynedd, North Wales. We will be using information for you and/or residential home records for demographic information in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. Bangor University will keep identifiable information about you until the study has finished. Non-identifiable information will be kept for 10 years.

Your right to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally-identifiable information possible.

You can find out more about how we use your information by contacting the lead academic supervisor of this research study; Professor Gill Windle who you can contact on g.windle@bangor.ac.uk.

If you wish to raise a complaint on how we have handled your personal data, you can contact our Data Protection Officer who will investigate the matter. If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful you can complain to the Information Commissioner's Office (ICO).

Our Data Protection Officer is Mrs Gwenan Hine and you can contact them at gwenan.hine@bangor.ac.uk.

Who can I contact for further information?

For more information about this research, please contact:	If you have any complaints about this study, please contact:
Ms Lia Roberts (Researcher) or Professor Gill Windle (Academic Supervisor)	Dr Huw Roberts
Dementia Services Development Centre, Wales, Bangor University, Ardudwy, Holyhead Rd, Bangor, LL57 2PZ. Tel: 01248 383719 Email: peu664@bangor.ac.uk or g.windle@bangor.ac.uk	School Manager, School of Health Sciences, Bangor University, Bangor, Gwynedd LL57 2AS. Tel: 01248 383136. E-mail huw.roberts@bangor.ac.uk

Appendix E: Poster with details of researcher and project

Dyma Lia o brifysgol Bangor. Mae Lia ar ganol cwblhau ei gradd meistr mewn ymchwil (MRes).

Mi welwch Lia o gwmpas eich cartref yn siarad hefo preswylwyr, teuluoedd a staff sydd wedi cytuno i gymryd rhan yn yr ymchwil yma.

Mae ei ymchwil yn edrych ar effaith symud mwy o gwmpas y cartref.

Mae Lia yn hapus iawn i ateb unrhyw gwestiwn amdan yr ymchwil. Gallwch gysylltu â Lia drwy y manylion wrth ochr y llun.

E-bost/E-mail:
peu664@bangor.ac.uk

Cyfeiriad/Address:
Lia Roberts, DSDC Wales,
Bangor University, Ardudwy,
Normal Site, Bangor.
LL57 2PZ

This is Lia from Bangor University. Lia is in the middle of completing a masters in research (MRes) degree.

You will see Lia around the home talking to anyone who has agreed to help with her research on the effect of moving more around the home.

Lia would be happy to tell you more and answer any questions. You can contact Lia via the contact information next to the photo.

DementiaGo

Appendix F: Mental Capacity Checklist

Impact of DementiaGo in residential homes

Checklist: Assessing Capacity

Participant ID: _____

Participant can:

- Understand the information relevant to the decision. ☐

AND
- Retain the information. ☐

AND
- Use or weigh the information to arrive at a choice. ☐

AND
- Communicate the decision ☐

failure on any part indicates a lack of capacity

NOTE: _____

_____

_____

Person assessing capacity	Date	Signature
_____	_____	_____

Appendix G: Participant Consent Form

What is the impact of DementiaGo in residential homes for those living, working, and visiting the homes?

Participant Consent Form

Please initial boxes for all statements you agree to

1. I confirm that I have read and understood the resident participant information sheet (Version 2, 13/01/2019) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to change my mind at any time without giving any reason, without my legal rights or standard of care received being affected. ☐
3. I understand that all information given by me or about me will be treated as confidential by the research team, unless they are concerned that there is a risk of harm. ☐
4. I agree to take part in the above study. ☐

Please turn the page over

OFFICE USE ONLY:

Participant Identification number: ☐☐☐☐

Name of researcher: .....Version 2, 13/01/2019

Additional extras: you can still take part without agreeing to the below (5 - 7):

5. I give consent for relevant sections of my care records to be looked at by the research team involved in the study where it is relevant to my taking part in this research. [For those living in the home] ☐

6. I give my consent for interviews to be tape recorded. ☐

7. I give my consent for the information collected about me in this study to be used to support other research and training in the future, and may be shared anonymously with other researchers. ☐

Name of Participant	Date	Signature
.....	.....	.....

Researcher	Date	Signature
.....	.....	.....

OFFICE USE ONLY:

Participant Identification number: ☐☐☐☐

Name of researcher: .....

Appendix H: Consultee Declaration Form

What is the impact of DementiaGo in residential homes on those living, working, and visiting residential homes?

Consultee Declaration Form

Please initial boxes for all statements you agree to

1. I ..... have been consulted about ..... 's participation in this research project. I confirm that I have read and understood the resident participant information sheet (Version 2, 13/01/2019) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that his/her participation is voluntary and that I am free to change my mind at any time without giving any reason, without his/her legal rights or standard of care received being affected. ☐
3. I understand that all information given by him/her or about him/her will be treated as confidential by the research team, unless they are concerned that there is a risk of harm. ☐
4. In my opinion he/she would have no objections to taking part in the above study. ☐

Please turn the page over.

OFFICE USE ONLY:

Participant Identification number: ☐☐☐☐

Name of researcher: ..... Version 2, 13/01/2019

Additional extras: he/she can still take part without agreeing to the below (5 - 7):

5. I give consent for relevant sections of his/her care records to be looked at by the research team involved in the study where it is relevant to him/her taking part in this research. ☐

6. I give my consent for interviews to be tape recorded. ☐

7. I give my consent for the information collected about him/her in this study to be used to support other research and training in the future, and may be shared anonymously with other researchers. ☐

Name of Consultee	Date	Signature
.....	.....	.....

Relationship to participant

.....

Researcher	Date	Signature
.....	.....	.....

OFFICE USE ONLY:

Participant Identification number: ☐☐☐☐

Name of researcher: .....

Appendix I: Questions To Go Alongside Residents' Topic Guide

Possible questions for residents interviews 28/02/19

1. **Introduction**

- Introduce myself (masters in research students at school of health sciences, Bangor University funded by KESS 2 and DementiaGo)

- Explain the aim and objectives of the study (to evaluate the impact of dementiaGo in residential homes for residents, staff and relatives)

- Explain confidentiality and anonymity

- Go through consent issues explaining that they may withdraw at any time from the interviews as whole with no reason, and don't have to answer any questions they don't want to.

- Explain recording, length (approx. ½ hr?) and nature of discussion, outputs/reporting and data storage

- There are no right or wrong answers, only want to hear their perspective in their own words

- Make it clear that the resident understands that we can pause/stop at any time and have a break. This doesn't have to be done in one sitting.

- Check whether they have any questions

- Check that they are happy to continue

2. **Theme: exploring the residents' day-to-day routine in the home**

- What are your interests and hobbies?

- What is your day-to-day routine here? What do you usually do during the day? (activities/routine)

- Do you find yourself quite active?

- Do you think you move around enough during the day? (do they need aid moving around, do they move around often)

- Do you do any daily activities? (e.g boccia, cards, laying the table, gardening)

3. **Theme: exploring the residents' understanding of physical activity**

- What is your opinion about keeping active/fit?

- How active have you been over the years? (physical activity history)

- Were you in to any activities or sports? What was your favourite?

- Are you aware of DementiaGo? DemGo provided a bag with equipment, sports week challenges go for gold (steps, keepy uppies with pompoms, sport day (medals etc)

- Which activities do you like?

- Any activities you don't like or you find challenging?

- Are you competitive!?

- How do you feel when you take part in a physical activity? (enjoy it? Happy?)

- Is there anything restricting you from taking part in an activity? (injury, illness, motivation, you don't know that there are activities on??)

- Do you feel like you do more activity now than you did in the home last year?

4. Since moving more and participating in activities, have you felt any improvements in the following not sure of this section.. this is something new I was thinking about. I have got a table which I could fill in with options 'a lot, a little, not at all, worse, don't know, not asked':

- Less pain
- Mobility and gait… do you walk better?
- Balance
- Ease of breathing
- More energy in everyday tasks
- Muscular strength
- Sleeping
- Being able to relax
- Self-confidence
- Feeling healthy
- Feeling happy
- Being able to meet people and interact/communicate
- Better relationship with staff

5. **Theme: exploring the staff's thoughts of physical activity**

- Do the staff try and get everybody involved in activities?

- Do they do activities often? Every day?

- How do you know that there are activities on, do the staff come around and get everybody?

- Do the staff get involved with you too? Do they play boccia with you?

- Are there anything stopping/restricting the staff from joining in?

- Do you get on better with staff because of physical activity? (try and simplify- Do you feel like taking part in activities improves your interaction/relationship with the staff and other residents?)

6. **Theme: 'have your say'**

- What do you think about the current activities in the home?

- Can you think of any improvement to current activities?

- What other activities would you like to do in the home?

- Would you like to do the sports week again this year? (explain what this was…so a week of doing challenges and going to the leisure centre..medals..penalty shoot out etc)

- Are there any other events you would like to happen? (tea dance, boccia games against other homes etc)

Appendix J: Questions To Go Alongside Staff Topic Guide

Possible questions for staff interviews 28/02/19

7. **Introduction**

- Introduce myself (masters in research students at school of health sciences, Bangor University funded by KESS 2 and DementiaGo)

- Explain the aim and objectives of the study (to evaluate the impact of dementiaGo in residential homes for residents, staff and relatives)

- Explain confidentiality and anonymity

- Go through consent issues explaining that they may withdraw at any time from the interviews as whole with no reason, and don't have to answer any questions they don't want to.

- Explain recording, length (approx. ½ hr?) and nature of discussion, outputs/reporting and data storage

- There are no right or wrong answers, only want to hear their perspective in their own words

- Check whether they have any questions

- Check that they are happy to continue

8. **Background**

- Work title/role around the home? (care staff, cleaner, assistant manager etc)

- Shift work? Usual hours/days? (e.g. day/night…)

9. **Theme: exploring the staffs' thoughts about the care home environment**

- What is your opinion of the extent to which the environment might enable opportunities for movement in the home? (big rooms, lengthy corridors etc)

- What is your opinion of the extent to which the environment might prevent opportunities for movement in the home? (chairs, corridors etc)

- Do you find there's a good time in the day when you are working to try and get people more active?

- What sort of things/problems that prevent residents from doing physical activity in the home? (this could be staff barriers e.g. time, resident barriers e.g. illness, don't want to, family e.g. don't want their relative to fall etc)

- How do you/would you overcome these problems/things?

10. **Theme: exploring the staffs' understanding of activities**

- What is your opinion about physical activity?

- Since working in the care home environment, have you ever had training on how to deliver physical activity and exercise for residents?

- Have you attended dementiaGo's Moving Moments workshops? If yes, what did you think/learn?

- Has your opinion about physical activity changed since dementiaGo moving moments project?

- Do you do any exercise yourself in your own time, if so what do you do? If not, why not?

- Do you think it's important for residents to be moving more/taking part in activities?

- To which extent have you been involved with the DemGo project? (attended workshop, sport week, sport day, conducting activities e.g. boccia in the home)

- How did the sports week go? Enjoyed preparing e.g. making pompoms? Are you looking forward to the next one? Is there anything you would do differently to prepare for the next one?

- Are you aware of the red equipment bag that was provided by DemGo?
  → If yes, have you been using it? If not, why not?

- Have you got any physical activities timetabled? (e.g. boccia 2pm every Monday)

- How easy is it to get participants involved? How do you recruit the residents to take part in an activity? Do you have to have a person-centred conversation with them about getting involved? 'Having a good conversation' // How do you encourage your residents to take part in physical activities? (you can see then if they have person-centred conversation e.e. having a good conversation)

- Do you enjoy doing physical activities with the residents? Change from doing other stuff?

- Do the residents enjoy doing activities?

- How do you think they feel during and after physical activity? Can you see a change in the resident's mood when taking part? Can you give me an example? (happy..enjoyes…etc)

- Do you feel like your relationship/interaction with the residents have improved?

- What are the most fun activities that you do with the residents?

- Are there any activities you find challenging?

- If you could, and had enough time, would you be doing more physical activities with the residents? If not.. why?

11. **Theme: exploring the staffs' perceptions of others' attitudes**

- What is your perception of the care manager's involvement/adaptiveness with activities?

- Do other staff get involved with getting the residents moving more?

- Did staff work together to prepare during sports week?

- Has the project improved staff interaction and team work?

- Do you think other staff should be doing more to help getting the residents moving more?

- How about the residents… what is their attitudes around activities? (lack of motivation, don't want to, really enjoy it, lazy?)

- What do you think the families think about encouraging residents to move more?

- do some family members get involved with the activities? Join in?

- Do you think the family members enjoyed being involved in the sports week? E.g. the steps challenge.

12. **Theme: 'have your say'**

- What next? Have you got any events organised? (e.g. walking challenge, boccia between other homes, a tea dance with other homes?)

- What is your feedback about DementiaGo?

- Any suggestions for further development of DementiaGo? Is there anything that could be improved/should change?

- Any other comments?

13. **Finishing off**

- What is the best thing about DemgGo for yourself? (prompt- have you learnt more about your residents, self confidence, made you want to move more yourself, improved staff relationships/interactions improved interactions with residents etc.)

- What is the best think about this project for you residents?

- Thank you for your time and for taking part in this evaluation

- The results will be presented in a presentation in the home at completion

- Any questions?

Appendix K: Questions To Go Alongside Relatives Topic Guide

Possible questions for relatives interviews 28/02/19

14. **Introduction**

- Introduce myself (masters in research students at school of health sciences, Bangor University funded by KESS 2 and DementiaGo)

- Explain the aim and objectives of the study (to evaluate the impact of dementiaGo in residential homes for residents, staff and relatives)

- Explain confidentiality and anonymity

- Go through consent issues explaining that they may withdraw at any time from the interviews as whole with no reason, and don't have to answer any questions they don't want to.

- Explain recording, length (approx. ½ hr?) and nature of discussion, outputs/reporting and data storage

- There are no right or wrong answers, only want to hear their perspective in their own words

- Check whether they have any questions

- Check that they are happy to continue

15. **Background**

- What is your relationship to the resident?

- How often do you tend to come and visit the home?

- What time do you tend to come and visit? (morning, afternoon, evening, days off, after work, weekends)

- Where do you usually find your family member? (living room? Bedroom? Sat down?)

- What do you usually do with your family member once you are here? (take him/her out..to another room…have a cup of tea.. sit and have a chat.. stay in the bedroom… play cards etc)

16. **Theme: exploring the relatives' thoughts about the care home environment**

- What is your opinion of the extent to which the environment might enable opportunities for movement in the home?

- What is your opinion of the extent to which the environment might prevent opportunities for movement in the home?

- Do you find when visiting that there is a good time in the day to get your relative to do more physical activity? (morning..afternoon..evening)
- What sort of things/problems you think that may prevent your relative from doing physical activity in the home? (this could be staff barriers e.g. time, resident barriers e.g. illness, don't want to, family e.g. don't want their relative to fall etc)

17. **Theme: exploring the relatives' understanding of activities**

- Do you do some physical activity yourself? If so, what… if not, why not… (What is your opinion about physical activity?)

- Do you think that physical activity is important for your family member? If yes, why… if not,..why

- Are you aware of the DementiaGo project 'moving moments'? (If not, explain what it is… it is project that is aiming to increase movement in the home, encouraging staff to get residents to move more and lead a less sedentary lifestyle)

- What is your opinion of the project? (good idea? Waste of time?)

- Did you take part during the sport week.. the steps challenge?

- Did your family member take part in the sport week? If yes, did he/she tell you about it? (in the moment and beyond)

- What is your opinion of the sport week and sport day 'go for gold'?

- How do you think your relative feels about physical activity? (during and after p.a..happy? enjoys?)….wedyn.. is that something they told you? (in the moment and beyond)

- Is there any activity you know that your family member enjoys doing?

- Do you think your family member seems happier following an activity?

- Was your family member quite active when younger? Any sports/activities she/he used to do?

18. **Theme: exploring the role of movement for their family member**

- Do you think your family member moves around enough during the day?

- Do you think the staff offers enough opportunities to participate in physical activities in the home?

- What is your perceived impact of DementiaGo for your family member? (prompt- enjoy having a medal, keeps talking about sports day, shows medal, increase in confidence, wants to do more events etc.)

- If your family members is reluctant to take part in activities, how do you think the staff could encourage them? Or could you encourage them?

- Do you join in in the activities within the home? (does your family member enjoy having you with them taking part….improves your relationship?)

19. **Theme: 'have your say'**

- What Is the best thing about this project for yourself? (knowing your family member is not sitting all day, knowing that your family member is having fun, knowing that physical activity could keep your member active for longer and is interacting with other residents etc)

- Have you got any suggestions of how DementiaGo's project could be improved? (any suggestions for the staff)

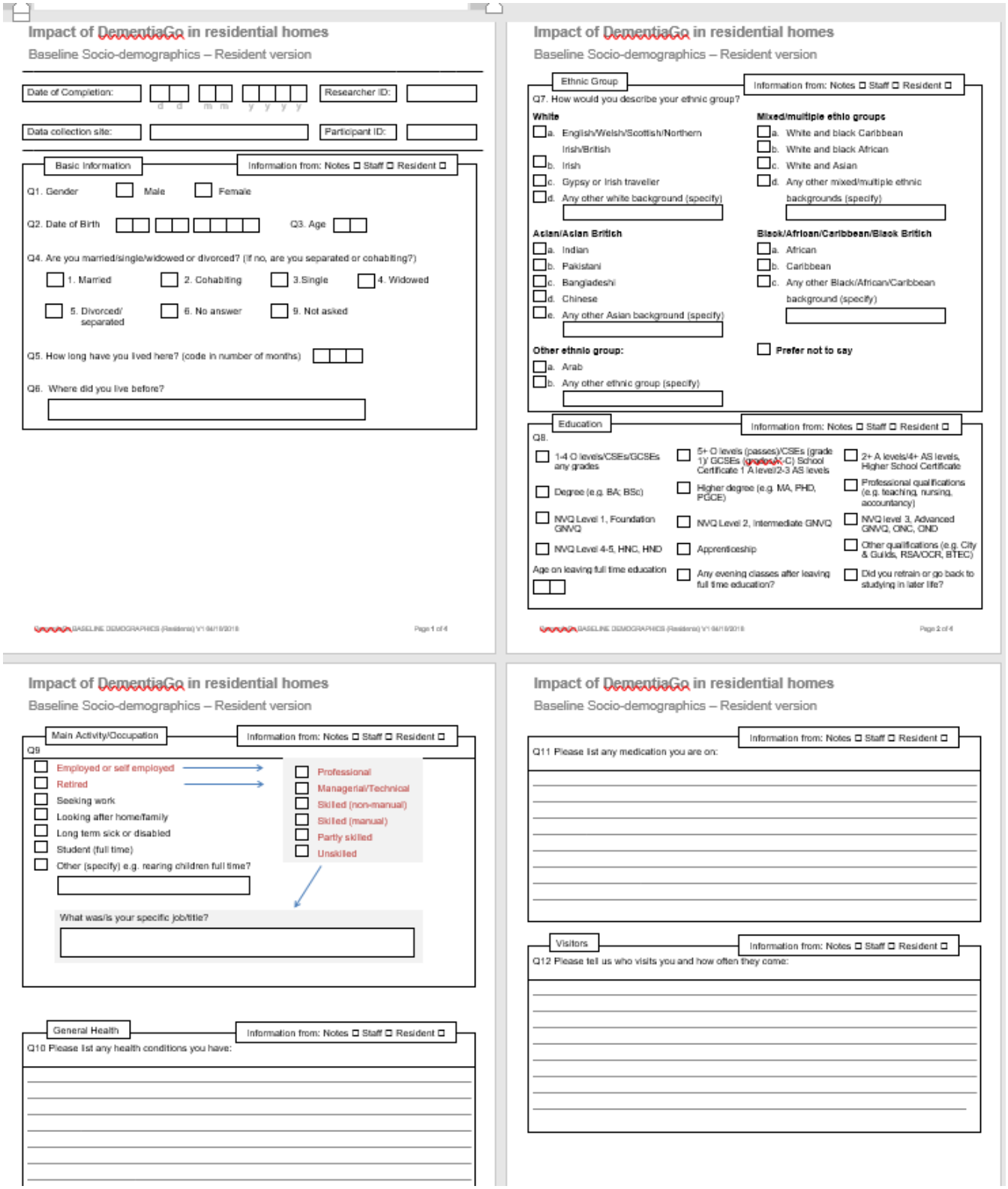
- Would you like to see physical activities opportunities continue? More competition within homes e.g sports week? Would you like to get involved?

20. **Finishing off**

- Thank you for your time and for taking part in this evaluation

- The results will be presented in a presentation in the home once completed

Appendix L: Demographic Information Sheets



Impact of DementiaGo in residential homes

Baseline Socio-demographics – Resident version

Date of Completion: d d m m y y y y

Researcher ID:

Data collection site:

Participant ID:

Basic Information — Information from: Notes ☐ Staff ☐ Resident ☐

Q1. Gender ☐ Male ☐ Female

Q2. Date of Birth ☐☐ ☐☐ ☐☐☐☐ Q3. Age ☐☐

Q4. Are you married/single/widowed or divorced? (If no, are you separated or cohabiting?)

☐ 1. Married ☐ 2. Cohabiting ☐ 3.Single ☐ 4. Widowed

☐ 5. Divorced/ separated ☐ 6. No answer ☐ 9. Not asked

Q5. How long have you lived here? (code in number of months) ☐☐☐

Q6. Where did you live before?

BASELINE DEMOGRAPHICS (Residents) V1 04/10/2018 Page 1 of 4

Impact of DementiaGo in residential homes

Baseline Socio-demographics – Resident version

Ethnic Group — Information from: Notes ☐ Staff ☐ Resident ☐

Q7. How would you describe your ethnic group?

White

☐ a. English/Welsh/Scottish/Northern Irish/British
☐ b. Irish
☐ c. Gypsy or Irish traveller
☐ d. Any other white background (specify)

Mixed/multiple ethic groups

☐ a. White and black Caribbean
☐ b. White and black African
☐ c. White and Asian
☐ d. Any other mixed/multiple ethnic backgrounds (specify)

Asian/Asian British

☐ a. Indian
☐ b. Pakistani
☐ c. Bangladeshi
☐ d. Chinese
☐ e. Any other Asian background (specify)

Black/African/Caribbean/Black British

☐ a. African
☐ b. Caribbean
☐ c. Any other Black/African/Caribbean background (specify)

Other ethnic group:

☐ a. Arab
☐ b. Any other ethnic group (specify)

☐ **Prefer not to say**

Education — Information from: Notes ☐ Staff ☐ Resident ☐

Q8.

☐ 1-4 O levels/CSEs/GCSEs any grades
☐ 5+ O levels (passes)/CSEs (grade 1)/ GCSEs (grades A-C) School Certificate 1 A level/2-3 AS levels
☐ 2+ A levels/4+ AS levels, Higher School Certificate
☐ Degree (e.g. BA; BSc)
☐ Higher degree (e.g. MA, PHD, PGCE)
☐ Professional qualifications (e.g. teaching, nursing, accountancy)
☐ NVQ Level 1, Foundation GNVQ
☐ NVQ Level 2, Intermediate GNVQ
☐ NVQ level 3, Advanced GNVQ, OINC, OND
☐ NVQ Level 4-5, HNC, HND
☐ Apprenticeship
☐ Other qualifications (e.g. City & Guilds, RSA/OCR, BTEC)
Age on leaving full time education ☐☐
☐ Any evening classes after leaving full time education?
☐ Did you retrain or go back to studying in later life?

BASELINE DEMOGRAPHICS (Residents) V1 04/10/2018 Page 2 of 4

Impact of DementiaGo in residential homes

Baseline Socio-demographics – Resident version

Main Activity/Occupation — Information from: Notes ☐ Staff ☐ Resident ☐

Q9

☐ Employed or self employed → ☐ Professional; ☐ Managerial/Technical; ☐ Skilled (non-manual); ☐ Skilled (manual); ☐ Partly skilled; ☐ Unskilled
☐ Retired →
☐ Seeking work
☐ Looking after home/family
☐ Long term sick or disabled
☐ Student (full time)
☐ Other (specify) e.g. rearing children full time?

What was/is your specific job/title?

General Health — Information from: Notes ☐ Staff ☐ Resident ☐

Q10 Please list any health conditions you have:

Impact of DementiaGo in residential homes

Baseline Socio-demographics – Resident version

Information from: Notes ☐ Staff ☐ Resident ☐

Q11 Please list any medication you are on:

Visitors — Information from: Notes ☐ Staff ☐ Resident ☐

Q12 Please tell us who visits you and how often they come:

Impact of DementiaGo in residential homes

Baseline Socio-demographics: Staff

Date of Completion: d d m m y y y y

Researcher ID:

Data collection site:

Participant ID:

Basic Information

Q1. Gender ☐ Male ☐ Female

Q2. Date of Birth ☐☐ ☐☐ ☐☐☐☐ Q3. Age ☐☐

Q4. Are you married/single/widowed or divorced? (If no, are you separated or cohabiting?)

☐ 1. Married ☐ 2. Cohabiting ☐ 3.Single ☐ 4. Widowed

☐ 5. Divorced/ separated ☐ 6. No answer ☐ 9. Not asked

Q5. Do you live with others? ☐ 1. Yes ☐ 2. No

Q6. IF YES, who do you live with?

☐ 1. Spouse/partner ☐ 2. Child/Children ☐ 3. Parents

☐ 4. Other (specify)

Impact of DementiaGo in residential homes

Baseline Socio-demographics: Staff

Ethnic Group

Q7. How would you describe your ethnic group?

White

☐ a. English/Welsh/Scottish/Northern Irish/British

☐ b. Irish

☐ c. Gypsy or Irish traveller

☐ d. Any other white background (specify)

Mixed/multiple ethic groups

☐ a. White and black Caribbean

☐ b. White and black African

☐ c. White and Asian

☐ d. Any other mixed/multiple ethnic backgrounds (specify)

Asian/Asian British

☐ a. Indian

☐ b. Pakistani

☐ c. Bangladeshi

☐ d. Chinese

☐ e. Any other Asian background (specify)

Black/African/Caribbean/Black British

☐ a. African

☐ b. Caribbean

☐ c. Any other Black/African/Caribbean background (specify)

Other ethnic group:

☐ a. Arab

☐ b. Any other ethnic group (specify)

☐ **Prefer not to say**

Education

Q8.

☐ 1-4 O levels/CSEs/GCSEs any grades

☐ 5+ O levels (passes)/CSEs (grade 1)/ GCSEs (grades A-C) School Certificate 1 A level/2-3 AS levels

☐ 2+ A levels/4+ AS levels, Higher School Certificate

☐ Degree (e.g. BA; BSc)

☐ Higher degree (e.g. MA, PHD, PGCE)

☐ Professional qualifications (e.g. teaching, nursing, accountancy)

☐ NVQ Level 1, Foundation GNVQ

☐ NVQ Level 2, Intermediate GNVQ

☐ NVQ level 3, Advanced GNVQ, ONC, OND

☐ NVQ Level 4-5, HNC, HND

☐ Apprenticeship

☐ Other qualifications (e.g. City & Guilds, RSA/OCR, BTEC)

Age on leaving full time education ☐☐

☐ Any evening classes after leaving full time education?

☐ Did you retrain or go back to studying in later life?

Impact of DementiaGo in residential homes

Baseline Socio-demographics: Staff

Occupation

Q9.

What is your job title?

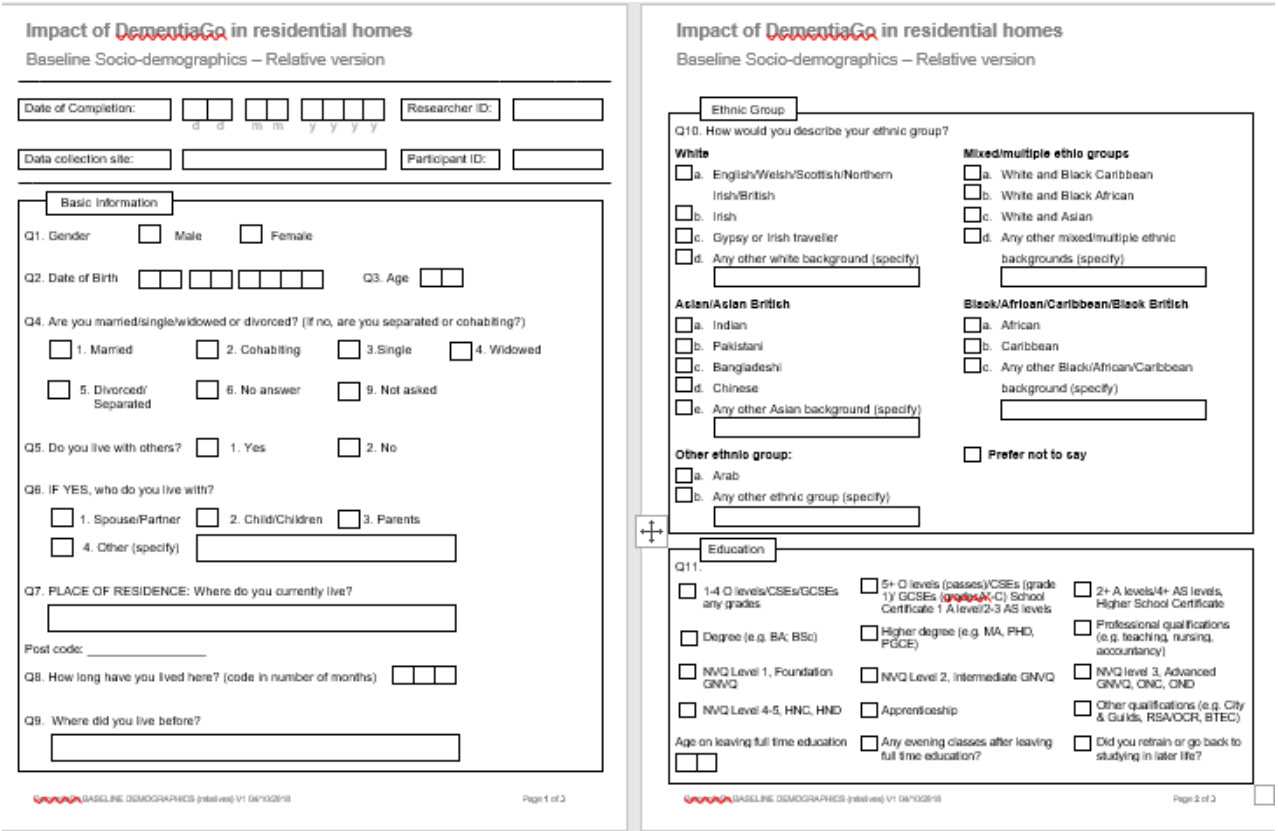
Do you work full-time or part time? Please tick:

☐ Full-time ☐ Part-time

How many hours do you work per week?

How long have you worked here and when is your usual shift?

How long have you worked in care homes in total?



Impact of DementiaGo in residential homes

Baseline Socio-demographics – Relative version

Date of Completion: d d m m y y y y

Researcher ID:

Data collection site:

Participant ID:

Basic Information

Q1. Gender ☐ Male ☐ Female

Q2. Date of Birth ☐☐ ☐☐ ☐☐☐☐ Q3. Age ☐☐

Q4. Are you married/single/widowed or divorced? (If no, are you separated or cohabiting?)

☐ 1. Married ☐ 2. Cohabiting ☐ 3.Single ☐ 4. Widowed

☐ 5. Divorced/ Separated ☐ 6. No answer ☐ 9. Not asked

Q5. Do you live with others? ☐ 1. Yes ☐ 2. No

Q6. IF YES, who do you live with?

☐ 1. Spouse/Partner ☐ 2. Child/Children ☐ 3. Parents

☐ 4. Other (specify)

Q7. PLACE OF RESIDENCE: Where do you currently live?

Post code: _____

Q8. How long have you lived here? (code in number of months) ☐☐☐

Q9. Where did you live before?

BASELINE DEMOGRAPHICS (relatives) V1 04/10/2018 Page 1 of 3

Impact of DementiaGo in residential homes

Baseline Socio-demographics – Relative version

Ethnic Group

Q10. How would you describe your ethnic group?

White

☐a. English/Welsh/Scottish/Northern Irish/British

☐b. Irish

☐c. Gypsy or Irish traveller

☐d. Any other white background (specify)

Mixed/multiple ethic groups

☐a. White and Black Caribbean

☐b. White and Black African

☐c. White and Asian

☐d. Any other mixed/multiple ethnic backgrounds (specify)

Asian/Asian British

☐a. Indian

☐b. Pakistani

☐c. Bangladeshi

☐d. Chinese

☐e. Any other Asian background (specify)

Black/African/Caribbean/Black British

☐a. African

☐b. Caribbean

☐c. Any other Black/African/Caribbean background (specify)

Other ethnic group:

☐a. Arab

☐b. Any other ethnic group (specify)

☐ **Prefer not to say**

Education

Q11.

☐ 1-4 O levels/CSEs/GCSEs any grades

☐ 5+ O levels (passes)/CSEs (grade 1)/ GCSEs (grades A-C) School Certificate 1 A level/2-3 AS levels

☐ 2+ A levels/4+ AS levels, Higher School Certificate

☐ Degree (e.g. BA, BSc)

☐ Higher degree (e.g. MA, PHD, PGCE)

☐ Professional qualifications (e.g. teaching, nursing, accountancy)

☐ NVQ Level 1, Foundation GNVQ

☐ NVQ Level 2, Intermediate GNVQ

☐ NVQ level 3, Advanced GNVQ, ONC, OND

☐ NVQ Level 4-5, HNC, HND

☐ Apprenticeship

☐ Other qualifications (e.g. City & Guilds, RSA/OCR, BTEC)

Age on leaving full time education ☐☐

☐ Any evening classes after leaving full time education?

☐ Did you retrain or go back to studying in later life?

BASELINE DEMOGRAPHICS (relatives) V1 04/10/2018 Page 2 of 3

Impact of DementiaGo in residential homes

Baseline Socio-demographics – Relative version

Main Activity/Occupation

Q12.

☐ Employed or self employed → ☐ Professional ☐ Managerial/Technical ☐ Skilled (non-manual) ☐ Skilled (manual) ☐ Partly skilled ☐ Unskilled

☐ Retired →

☐ Seeking work

☐ Looking after home/family

☐ Long term sick or disabled

☐ Student (full time)

☐ Other (specify) e.g. rearing children full time?

What was/is your specific job/title?

Appendix M: Word Document Of Possible Themes With Extracted Quotes (names have been anonymised)

Transcripts	**In the moment and beyond**	
ST02 (CH01)	'oedd yna rei yn son amdana fo am wythnosau wedyn' '*some were talking about it for weeks after'*	Sports day
ST03 (CH01)	'well everybody seems to be smiling in the pictures and talking positively about it'	Sports day was talked about afterwards…new staff even knew about it
ST04 & ST05 (CH01)	'they all enjoyed that, they came back buzzing really' 'they've got their medals up in the bedroom and some of the walls you know' 'if you pick the medal up, some will remember it, but for some with dementia it's not always there (the memory)'	Sports day (these staff were not in the sports day)
ST09 (CH02)	'mae o yn neud nhw yn hapusach am rest o'r diwrnod wedyn' *'it makes them happier for the rest of the day'* 'yn hir iawn yndi' *'for very long'* 'oni yn mynd ar fy ngwylia diwrnod wedyn a pan ddoshi adref aru nhw dal mynd on amdan y peth' *'I was going on holiday the day after and when I came home they were still going on about it'*	After having done activities The feeling of happiness stays with them for a very long time after doing an activity Sports day
ST10 (CH03)	'oedd pawb yn brolio, yn enwedig Iwan (changed name). Cradur, da ni wedi colli Iwan yn ddiweddar wan. Oedd o wedi mwynhau a chafon ni ddim diwedd o'r peth I ddweud gwir, oedd o mor prowd ac oedd o yn gwisgo ei fedal bob diwnod, a dangos y darian, a I mi….oedd gweld gwen ar ei wynab o bob diwrnod…wel oedd hyna wedi neud gwahaniaeth mawr I'w fywyd o de' *'Everybody was praising, especially Iwan. We have lost Iwan recently. He had really enjoyed and we didn't hear the end of it to be honest, he was so proud and he was wearing his medal every day, and showing the trophy, and for me...seeing a smile on his face every day…well that made a big difference in his life'*	Sports day. This staff wasn't there Iwan (changed name) (residents)
ST11 (CH03)	'Oedd Iwan druan yn cerdded o gwmpas y lle gyda ei fedal rownd ei wddw, ac yn dangos y darian I pawb oedd yn dod drwy drws am wythnosau!' *'Poor Iwan used to walk around with the medal around his neck, and showed the trophy to everyone who came through the door for weeks!'*	Sports day. Iwan
ST12 (CH03)	'Ti'n cofio Iwan? Mae o wedi marw rwan cradur…oedd o yn cario y darian I bob man a dangos o ac ei fedal I bawb. Mae y darian dal yn fana dydi. Ooo oedda ni yn son amdana fo am hir iawn de, oeddan' *'Do you remember Iwan? He has sadly died now…he carried the trophy everywhere to show it, and his medal, to everyone. The trophy is still there isn't it. Ooo we were talking about it for a long time'*	Sports day. Iwan
ST13 (CH03)	'Oedd 'na un dyn,, oedd o yn dangos ei fedal I bawb, bob diwrnod, ac y darian de, oedd o yn dangos o I bawb 'lly de' 'ac y trohy' *'there was one man, he used to show his medal to everyone, every day' 'and the trophy'* 'do, hir iawn hefyd chwarae teg' *'yes ,for very long to be fair'*	Sports day. Iwan When asked if it had had an impact on people for more than just a day
RES12 (CH03)	When asked if he was telling everyone that they won after coming back into the home: 'Iwan (changed name) was doing it over us, he was in the door showing it!' (showed the trophy to everyone) The resident's medal was hanging on his walking frame, when I asked him if that was the medal that we got in the sports day: 'yes, to remember that I took part in the sports day'	Perception that he wants to remember? In the moment and beyond. Proud. Show off medal
FAM06 (CH03)	'well her husband (resident's husband= Iwan {changed name}) had been to it and he had a medal' 'he was over the moon'	Talking about Iwan (changed name) which was her brother in law

	When asked how he felt after the sports day: 'on top of the world' 'praising, and that he had enjoyed himself and he was saying that he was the best one there *laughs*' When asked for how long he talked about it: 'for very long didn't he Gaynor (changed name) Gaynor (sister of participant and the wife of Iwan) – 'ooooo for hours, and I'll tell you, he used to go right to the very end there and praised (to the other unit) that he had had a medal' 'he wanted to go again' When asked if he remembered it weeks afterwards: 'oh yes, the medal was with him when he was buried, they had put it (medal) around his neck' 'ooooh he was over the moon. His photo is up there. It had up uplifted him' ('oedd o wedi codi ei galon wyddoch chi')	
FAM07 (CH03)	When asked how she knew how the sports day went: 'because she was showing this medal every minute *laughs*, and her photo up in the front, she liked her picture being taken *laughs*. No seriously she was talking about it, I suppose because of the medal' When asked if her mother continued to talk about the sports day for a while afterwards too: 'Yes, she was talking about it every minute and if somebody came to see her, say now her great grandchildren would visit and that one of them had had a medal she would say "oh I have had a medal too" you know *laughs*, and I'm sure it is up her bedroom too'	Sports day Showing the medal every minute
FAM08 (CH03)	'…he meant the world of the medal. He meant the world of the medal and he was showing it to everyone, and one of the best things that he had ever done was having the medal and winning the shield to bring back, and he carried it whole way on the bus, and he showed it to everyone. He would wear the medal if there was anything going on…Christmas meal, or anything that was going on, the medal had to go around his neck. When my Dad died, he wanted the medal to go with him in the coffin' 'it (medal) was hanging in his bedroom next to his bed, and he would ask "where's the medal, have you seen the medal?" each time we came to visit. Everyone who would come here, he had to go and get the medal to show everyone. They had put photos up (staff had put photos from the sports day by the entrance) and then he would show his medal and then he would want to show the shield, and they had put the shield by the front door and he would say "that is my shield", but of course it was Plas Hafan's. He really did think that it was him that had won it for Plas Hafan' '…but the people who had gone to the DementiaGo with him, they had such a good time they were talking about it for long and they used to say "do you remember that day we went to the DementiaGo" and "do you remember this" and "do you remember that", then they would go around and they would say "do you remember…it was your Dad that won the thing" because he wore the medal. Oh for months after they were still bringing the subject up to people who were here, they kept collecting memories from the day because he was going around with his medal. If you wanted a man to say that this DementiaGo thing is a good thing, well Dad was the one to do so!"	!!!! Link with shared experiences Iwan

Transcripts	Perceived benefits & Feelings after	
ST01 (CH01)	'it has everything to do with circulation you know…I don't know a lot but…circulation is getting the blood moving around your body and you get more oxygen and all that stuff, so it's a good thing to be able to do' 'it's all about the endorphins and all that thing' 'you get to know them a little bit more, yes, definitely…yeah. It's like a team building kind of thing'	Perceived benefits of moving Perceived benefits of moving Improves relationship with the residents Team building
ST02 (CH01)	'mae o yn change yndi' '*it's a change'* 'ti yn cael fwy o 1-to-1 rywsut hefo nhw, er hwyrach mae na griw ohona ni yna ond ti dal yn cael…' *'you get more 1-to-1 somehow with them, even though there is a crowd of use there you still do'* *'da' 'good'* 'mae o yn rhoi hwb yn gwaith' *'it gives you a hub at work'* 'ti'n involvio nhw ac yn cael laugh hefo nhw…mae nhw yn involved hefo chdi wedyn dydi. Mae o wedi bod yn dda I ni (staff) hefyd ti'n gwybod) '*you are involved with them and have a laugh with them…they are involved with you too then. It has been good for us (staff) too, you know'*	When staff join in activities it's a change from doing other stuff 1-to-1 with residents when doing activities Feelings after Personal impact/benefit Benefits staff too. Shared experiences.
ST03 (CH01)	'I think it's a good idea because it keeps them moving doesn't it. If you can get somebody involved in physical activity then it's going to help them standing, walking etc. and getting about in general' 'and for you wellbeing isn't it, and having a purpose' 'it's a boost of confidence isn't it' 'it gives a talking point then doesn't it as well, and they feel like they've achieved something'	Perceived benefits of physical activity Having a purpose Sports day Perceived benefits of residents doing activities
ST04 & ST05 (CH01)	'because their mobility is very important at their age isn't it' 'their well-being and to keep their brains active as well' 'I think they need stimulating don't they, and 90% of the time they will say "oh that was good" 'yeah I would say happier, and a bit more energised as well'	Perceived reasons of why residents should be encouraged to do physical activity Residents' enjoyment

	‘it’s fresh air as well isn’t it…it’s good as well isn’t it to go out and have fresh air’ , ‘you get chatting yeah’	When asked about if they think it changes residents’ mood when they do PA Perceived benefit of going outside Social benefit
ST07 (CH02)	‘dw I yn meddwl bod o yn dangos I nhw bod nhw actually yn medru neud hefyd’ ‘I think it shows them that they can actually do it too’ ‘yndi enjoio fo, wel mae nhw bob tro I weld yn gwenu eniwe’ *‘they enjoy it, well they always have a smile on their faces anyway’*	Perceived benefit – increase resident confidence How residents feel when they do activities with music Residents’ enjoyment
ST08 (CH02)	‘mae nhw angen y stimulation a dw I yn meddwl bod yr ochr corfforol yn bwysig iawn idda nhw hefyd I gadw I independence mor hir a fedranw’ *‘they need stimulating and I think the physical side is very important for them to keep their independence for as long as possible’* ‘Doedd gena ni ddim yr equipment chwaith ond ti’n gwybod mae gena ni yn boccia rwan a digon o bethau rwan I ddewis o’ *‘we didn’t have the equipment, but now we have the boccia and plenty of other things to choose from’* ‘Mae staff y cartrefi I gyd wedi bod yn trafod y ffordd hawsaf o wneud pethau hefyd de…so na mae o yn gret’ ‘*staff from all of the residential homes have been discussing the easiest ways of doing things as well, so no, it is great’* ‘mae nhw yn teimlo pan mae yna griw bach a griw o staff, mae nhw yn cael yr ychydig bach o 1-to-1 na sydd yn anodd pan wyt ti yn 4 staff I 32 o bobl de. So yndi mae nhw yn enjoio y grwps bach o weithgareddau sydd yn mynd ymlaen’ *‘they feel like they get a little bit of 1-to-1 with staff when they are in a smaller group, which is hard when it is 4 staff for 32 people. So yes, they enjoy doing activities in smaller groups’*	Perceived benefits of moving Maintain independence for as long as possible They have benefitted from received the equipment bag Connects homes More 1-to-1 Enjoy smaller groups
ST09 (CH02)	‘mae o yn neud lles idda nhw hefo mentally a physically dydi’ *‘does them a world of good both mentally and physically’ (physical and mental well being)* ‘confidence…rwan dw I yn dechrau ffeindio fo, ar ol yr holl flynyddoedd ar ol bod ar y cyrsiau hefyd de’ (moving moments) *‘confidence…it’s only now I am starting to find it after all those years, after being on the courses too’ (DemGo workshops)*	Perceived benefits of moving Personal benefit from MM workshop. Increases confidence
ST10 (CH03)	‘mae o yn dod a pawb yn agos at ei gilydd mewn ffordd dydi, a gafonw hwyl wrth wneud hefyd de, digon o chwerthin yma de’ ‘*it brings everyone together in a way doesn’t it, and they had fun whilst doing to too, plenty of laughing was going on here’* *He had really enjoyed and we didn’t hear the end of it to be honest, he was so proud and he was wearing his medal every day, and showing the trophy, and for me...seeing a smile on his face every day…well that made a big difference in his life’*	Sports week Brings everyone together Fun

	‘mae nhw yn teimlo yn hapusach eu hunain dw I yn meddwl, a mae nhw wedi neud rywbeth…mae’r aim yna…pawb yn fwy siaradurs wedyn hefyd’ ‘*they feel happier in themselves I think and they have done/accomplished something…the aim is there…everyone is more talkative afterwards as well’*	Makes a difference to lives Iwan Feelings after doing an activity Happier Sense of accomplishment More talkative
ST12 (CH03)	‘cadw nhw yn esmwyth….i gymdeithasu hefo rhai eraill a bod o yn hwyl idna nhw de…a nadu nhw rhag fod yn depressed’ ‘*keeps them less stiff(?)…to socialise with others and have fun…and prevent them from being depressed’* ‘dw I’n meddwl bod nhw yn teimlo yn well…fatha dweud os dw I yn neud ymarfer ysgafn, mae nhw yn cael panad a ballu wedyn, dw I yn meddwl bod nhw yn teimlo yn well I ddweud y gwir…neud nhw deimlo yn fwy hyderus’ ‘*I think they feel better…if I do light exercises with them, they get a cup of tea afterwards, I think it makes them feel better to tell the truth…makes them feel more confident’*	Perceived benefits of moving Feelings after
ST13 (CH03)	‘mae o yn dod a nhw at eu gilydd a mae nhw yn cael gweld pobl eraill dydi. Mae nhw yn dod yn rhan o’r gymuned actually hefyd, ti’n gwybod, mae nhw yn teimo fwy normal fyswn I yn ddweud’ ‘*it brings them together and they get to see other people. They become a part of the community as well actually, you know, they feel more normal I would say’*	Brings them together Makes them feel ‘normal’ Become a part of the community
RES01 (CH01)	‘www lovely, I look at other people that have to have help and I think “Oh Jinnie (changed name) you’re lucky’	Appreciative How she feels when doing PA or walking up and down the corridor
RES01 (CH01)	‘oh it’s great, it’s a great change from being in here…that’s another reason I should get out and see other people…normal people *laughs* and hmm yeah….it is…you feel better when you’ve been’ ‘I’m sure you will feel better if you’ve done a bit of exercise don’t you’	Feelings when going walking outside Feel better when you’ve been
RES03 (CH01)	‘I just think it’s keeping everything going, that’s how I feel’ 'www yeah I do enjoy it without a doubt yeah. When I look at some of the others (residents) and I just think “what the heck are you doing? You’re not doing anything. You need to do something”. But it’s not up to me to do that’	Perceived benefit= walking keeps everything going Enjoys PA
RES09 (CH03)	‘well, keeping your mind younger is one thing I think, yes, yes, so it is very important I think’ When asked how she feels when taking part in physical activities: ‘oh I love it to tell you the truth, I love it’ When asked how it makes her feel: ‘Well, nice, happy in a way doesn’t it, yes’ When asked if they do activities like the skittles often: ‘I would live more of that to tell you the truth, yes, because it benefits you, even though these arms are hurting, it benefits you after’	Perceived benefit Positive perception of PA importance Resident loves taking part in physical activities Feels nice and happy
RES12 (CH03)	‘it gives you a hub doesn’t it to make more of an effort’	When asked how he feels when taking part in physical activities Makes him want to do more after coming back into the home
FAM02 (CH02)	‘it is really because it keeps their minds going as well, not just their body, not just the physical things, it keeps their minds going doesn’t it and also it’s a bit of fun for them as well really isn’t it’	Perceived benefit of PA for residents

FAM04 (CH02)	'it is important that someone moves. Someone sleeps better, eats better, and someone's life is better'	Perceived benefits of moving Links to positive perception of PA Better life
FAM07 (CH03)	'I would think it gives her a boost'	Perception that taking part in physical activity gives her Mum a boost

Transcripts	**Social/mix with others**	
ST02 (CH01)	'I mi mae o yn beth da achos mae o yn cael nhw I fynd allan, mae nhw yn cymysgu hefo pobl eraill' *'for me it is a good thing because it gets them to go outside, they mix with other people'*	Mix with others
ST04 & ST05 (CH01)	'they like to communicate with the outside don't they. People pass and they wave and you know, they want that don't they' 'this road can be very busy, and school children, they love watching the kids going to school you know'	Communicate with the outside
ST08 (CH02)	'we have another home, Plas Hedd, coming here on Monday to play boccia, and we are going to make an afternoon tea for them after playing'	Bringing homes together Co-operating with another home
ST10 (CH03)	'everyone walks to the shop, everyone who can, and whoever can't goes in a wheelchair, and for a chat in the middle room then so everybody comes together again'	Shop in the home is an opportunity for conversations
ST11 (CH03)	'they met new people, some of them recognised people they knew before coming into the home, and some of them were chatting with other people and enjoying'	Sports day
ST12 (CH03)	'they can mix with others, stops them from feeling lonely…everybody mixing together and getting along together'	Social benefit of being able to move Moving enables residents to mix with others
RES12 (CH03)	When asked if it was nice to see other homes: 'oh yes, nice to have a competition isn't it!'	Competition Nice to see other homes

Transcripts	**Competition**	
ST02 (CH01)	'I think it's good when they compete against each other, they enjoy it' 'some are very competitive!'	Residents' enjoyment Competitive residents
ST04 & ST05 (CH01)	'they all want to win don't they'	
ST08 (CH02)	'it gets competitive as well doesn't it' 'we didn't think that a lot could do that, but on the day, wow, some of them were so competitive' 'once the day was here and we took a group to Caernarfon with a handful of staff, I must say it was quite competitive!'	Doing activities Sit-to-stand sport day Sports day
ST10 (CH03)	'we have prizes to give to the winners so it becomes more of an aim then, so everybody takes part'	Competition gives residents an aim Skittles activity
ST11 (CH03)	'we took people who don't tend to take part, or they will after a bit of persuasion, and Barbara (changed name) was really into it, especially when she had to kick the ball into the goal, she was quite competitive!'	Sports day Penalty shootout Although competitive, each home supported each other

	‘All staff mixed together…I know we were competitive with our own home, however, everybody supported each other and it was fun’ ‘when we went to Caernarfon (sports day) you could see “wow these are competitive!’	Learn things about residents
RES03 (CH01)	When asked if she would like to do the sports day again this year: ‘I would love to. Just to make sure that we win!’	Would love to do sports day again Competitive. Wants to win
RES09 (CH03)	‘everybody is for the best aren’t they *chuckles*	‘pawb am y gorau dydi’ Everybody wants to be the best
RES11 (CH03)	‘I had blue, the others had red, and then those who threw the ball (closes to the white) won…and we won with the blue balls didn’t we *smiles*’	Suggests that winning is important? As she stated that it was her team that won. Referring to the boccia in DemGo community class Smiled whilst saying it…proud?
RES12 (CH03)	‘we came first out of three or four other homes!’ When asked if it was nice to see other homes: ‘oh yes, nice to have a competition isn’t it!’	Competitive? Competition Other homes
FAM08 (CH03)	‘he wanted to do better than the man next door *laughs*, and better than the other homes that were there’	Iwan Wanted to do better than the others

Transcripts	**Proud/sense of achievement**	
ST02 (CH01)	‘we are supposed to have the trophy back this month now’	Proud of trophy
ST04 & ST05 (CH02)	‘they’ve got their medals up in the bedroom and on some of the wall you know’	Proud of medals
ST07 (CH02)	‘they were really good. There was a lot of them that could do much more than I expected, I was shocked! They were brilliant!’	Sports day Staff proud of residents
ST09 (CH02)	‘I was going on holiday the day after and when I came home they were still going on about it’	Suggests that the residents were proud
ST10 (CH03)	‘He had really enjoyed and we didn’t hear the end of it to be honest, he was so proud and he was wearing his medal every day, and showing the trophy’ ‘They feel happier in themselves I think and they have done/accomplished something’	Proud of achievement Iwan Sports day Accomplished something
ST11 (CH03)	‘Poor Iwan used to walk around with the medal around his neck, and showed the trophy to everyone who came through the door for weeks!’	Proud of medal and trophy
ST12 (CH03)	‘seeing what they could do…everybody did really well…and see us come back with the trophy as well!’	When asked about what she enjoyed most about sports day
ST13 (CH03)	‘There was one man, he used to show his medal to everyone, it was really really…nice to see someone so proud of something you know’ ‘and the trophy, he showed it so everyone’	Iwan Nice to see someone so proud of his achievement
RES03 (CH01)	‘well my medal is on the wall in my room!’	Proud of medals
RES12 (CH03)	‘we came first out of three or four other homes!’ ‘Iwan (changed name) was in the door showing it’ (showing the trophy to everyone) The resident’s medal was hanging on his walking frame, when I asked him if that was the medal that we got in the sports day: ‘yes, to remember that I took part in the sports day’	
FAM05 (CH03)	When asked if she thinks her Mum is happier after taking part in an activity:	

	‘yes I think she is because when we take her out, we take her shopping or something, she feels like she has done something and that she has been able to do something’	Sense of accomplishment? Could link to benefits too?
FAM08 (CH03)	‘…he meant the world of the medal. He meant the world of the medal and he was showing it to everyone, and one of the best things that he had ever done was having the medal and winning the shield to bring back, and he carried it whole way on the bus, and he showed it to everyone. He would wear the medal if there was anything going on…Christmas meal, or anything that was going on, the medal had to go around his neck. When my Dad died, he wanted the medal to go with him in the coffin’ ‘one of the best things that he had done in Plas Hafan was getting to go on the DementiaGo, and getting to go and have the medal, and showing it to everyone. I have a photo of him, and he was standing with his shield and with his medal, he was seriously so proud that he had done it’ ‘it (medal) was hanging in his bedroom next to his bed, and he would ask “where’s the medal, have you seen the medal?” each time we came to visit. Everyone who would come here, he had to go and get the medal to show everyone. They had put photos up (staff had put photos from the sports day by the entrance) and then he would show his medal and then he would want to show the shield, and they had put the shield by the front door and he would say “that is my shield”, but of course it was Plas Hafan’s. He really did think that it was him that had won it for Plas Hafan’ ‘when Dad went (to the sports day), he was so happy…because, you know when you get older and you have been used to be the person doing everything, and independent and doing stuff…’ ‘then as you go older, you have to come into a home, I think you don’t…everything is don’t for you isn’t it, and I think maybe there isn’t a lot of stuff you do that makes you feel proud? Like proud of the achievement that you have done, and I think that that (sports day) had made him so proud of himself, that he had brought the shield back. He said that he felt like an Olympian! Having come back home with the shield and the gold medal, honestly, he did!” ‘honestly, he did feel that, he did feel as if he had won the gold medal in the Olympics…as a 97 year old you know, he did feel like he had, well to Dad it was like winning the gold medal in the Olympics” “as if he had played rugby for Wales!”	!!! Showed medal and trophy to everyone Carried it all the way back Medal went with him in the coffin In the moment and beyond Iwan !! Sports day made him feel proud Residents don’t have a lot of things to be proud of (achievement/accomplishments wise) one they go into a home because everything gets done for them Felt like an Olympian!

Transcripts	**Training/education/workshop**	
ST01 (CH01)	‘problem with their knees for example…how can you motivate that person to move without hurting them you know’ ‘going back to the other question, you know how do you feel about them *residents* moving, it would have been nice to actually have more support you know…in that respect, because obviously you are scared to hurt them and you don’t know how to actually explain very much how to do things’ ‘how to do it…that’s what I think would be much better, like a practice’	Lack of training Sports week Would have liked more support Lack of training Opportunity to reduce barriers Need of practical training

	'I would like more support like we were saying…someone who would actually come and shows us you know, even some exercises sitting down…'	When asked if there is anything they would do differently to prepare for the next sports week. Demonstration Seated exercise Professional help
ST03 (CH01)	'I think if you're training in that area of what activities are relevant to people with mobility issues or dementia, and ways of getting them involved…it would give you ideas wouldn't it'	Perceived benefit of practical training Ideas
ST07 (CH02)	'you don't really need to learn how to do some things with them'	No need for physical training? Staff knowledge of residents in enough?
ST08 (CH02)	When asked if she has had any training on PA: 'no, not for years really, there wasn't a lot of activities going on in the homes. I think I did a chair exercise course about 10 years ago in Wrexham, through Age Cymru, and that was when they started to implement activities into homes, but when I started 22 years ago there was no activities' 'a lot of staff are nervous of doing activities because they have to take the lead and they haven't been trained how to' 'I have always thought that it would be nice to have an activity co-ordinator to go around the homes…even just one shared between the homes…once a week, increasing confidence and setting tasks for staff to carry out' 'I have been sending staff (to the workshops) to try and increase their confidence more than anything' When asked if there is anything that they would do differently to prepare for the next sports week: 'try and get more training for staff. I would really like having more training for the staff so that **everyone** takes part. I chose the staff that I knew were ready to do it, didn't matter what they looked like'	No recent course on PA Need for physical training on PA Activity co-ordinator MM workshops Staff confidence More training All staff should do training
ST09 (CH02)	'I would like if everyone got to learn more about moving' 'it was worth going' 'I have learnt how important it is not to keep people going, even just small movement, how much of a difference that can make to someone' 'the moves were so simple, everybody can do it' 'Confidence…it's only now that I am starting to find it, after all of the years, after being to the workshops as well'	Attended MM workshop and wanted others to Importance of moving Everybody can move, even just a little Confidence MM workshop increased her confidence
ST10 (CH03)	'We have had someone here…it was like some kind of training, but I am going back years now' 'because with things like that (physical activity) we have to be careful of how much they (residents) can do without hurting themselves'	No proper/formal training on physical activity since working in care home Haven't had any recent training Scared of them hurting themselves Need of training

ST11 (CH03)	'it was quite good…it gave us ideas. It was quite interesting actually' 'it taught us the importance (of moving) and then we did some moves and stuff…because we are not medically qualified for anything here…we are carers…I know that we learn as we go along with medical support, but sometimes you think "right, we'll so some exercises today"…but where do you stop? Or what do you do with different people. It is important for us to have some kind of idea with stuff like that as well isn't it' 'in terms of doing it in the home, it's ok when we do games, but in terms of arm chair exercises and stuff…is it safe for everyone on that time? I know that we know our residents but then you look at someone and they say that they are not in pain but you never know'	MM Workshop Ideas Need for practical training/workshop Lack of knowledge/education on when to stop and how to meet other peoples' abilities when doing physical activity Confident doing games, but not seated exercises for example Safety Need for PA training
ST12 (CH03)	'no we haven't had training on how to do physical activity with them' 'there should be (training) because what if we do something wrong, tell them to do something and then them hurting themselves, do you know what I mean? It depends, every person is different' 'some people can't tell where their pain threshold is very well can they' 'well yes (opinion has changed since DemGo has come into the home), it is good for them (residents) as well isn't it…people who can't move can move/exercise in their chairs, but it is also good for those who can move to do what they can isn't it'	When asked if she's ever had training on physical activity Need for training Scared of hurting them Every residents' ability is different MM project has changed her opinion of physical activity Realised that everyone can move (seated or not)
ST13 (CH03)	'it was quite good…it opened my eyes because it showed me things that we could do here with them (residents)' 'we haven't been taught how to do it…having somebody else to tell how to instruct…that would be quite good actually'	MM workshop Ideas Highlights the need to be taught how to instruct physical activity

Transcripts	**Residents' choice**	
ST01 (CH01)	'I mean if they don't want to then they don't want to and that's it. You would ask a certain amount of times you know but…it's their choice' 'I think that would be good, yeah. Yet again you see, it depends of the mood that they are in, because somebody could actually come and wanting to do all these things but 'oh no I think I'd prefer to stay in the room today''	Taking part in activities If somebody else came in to the home Residents'' choice not to take part and stay in room
ST02 (CH01)	'some will come straight away but some will say "no not today". It just depends on how they are feeling on the day you see'	Resident participation in activities
ST03 (CH01)	'some people are tired but it is always the same people who want to take part in thing and some that won't'	Resident participation in activities
ST04 & ST05 (CH01)	'I know over the last 12 months it's dwindled, there's not as many, more people sit in their room and stay in their rooms now, but that's their choice'	Resident participation in activities
ST06 (CH02)	'at one point I remember seeing here (main lounge) full with residents you know…bingo…singing…but they are different residents now aren't they, and you can't make them do it can you' 'it's nice to see them moving isn't it, instead of looking at them sitting there, and when you ask them they go "no, no"…so it makes you think what do they want. You can't force them to do it. It's hard'	Different residents. New, older residents coming into the home Activities in general (not PA) Can't force them Staff like to see residents moving It's hard to get resident involved

ST07 (CH02)	'a lot of them are motivated themselves, so you will see some walk all the way from the bottom to the top because it's a long corridor isn't it. Some will just go and do it anyway'	Residents choice to do own physical activity Positive choice Walk corridor
ST11 (CH03)	'you have to weight and measure each day really….when is the best time to do something…and what they **want** to do'	Have to weigh and measure when and what activities to do What do the residents **want** to do
ST12 (CH03)	'it depends of the resident itself…depends…just talk to them and ask if they will and sometimes they don't want to…you can't force them can you'	Resident participation in activities Can't force them
ST13 (CH03)	'some just want to sit and watch television, or read their newspaper, but you know, it is nice for them to do something different…if **they want** to do it, you know, they have to feel comfortable to do it as well…their **own decision**' 'it varies, it could be any day of the week, or any time of day, like I've said, whenever they feel like they want to do it. You can't make them do anything, but if they are ready to do it, they will do it…you can sense when' 'we are going to DementiaGo (community class) in Pwllheli's leisure centre. We are hoping to go every week…if they enjoy it, we will take them every week, but like I've said, it is up to them isn't it, but hopefully they will'	Residents' preferences of what they want to do Their own decision to take part Sense when to do activities. DementiaGo community class
RES02 (CH01)	'I'm mobile around here, I can come and go….and I can go to town **if I want**…or walk along the prom'	Resident can choose to come and go
RES03 (CH01)	'I like to do things that I want to do' 'first thing in the morning I usually go and have something to drink and eat, and then I go for a walk. I have to have a walk every morning' 'it's just an ordinary walk that **I decide** to go on and hmm I'll come back and sometimes I go again' 'they don't make me do it (the staff don't make her go for a walk), I just suddenly turn around and say "right I'm going off now…going to have a walk…" and that is what I do'	Resident likes so do what she want to do so Resident chooses to go for a walk every morning Motivation
RES04 (CH01)	When asked if staff try and get her out of the bedroom: 'www yes…I choose to stay here but I will go out to see stuff that's to my taste'	
FAM01 (CH01)	'…she's had broken hips…she's old…she's 93 (years old), so she can't move very well and **doesn't want to. She just wants a peaceful life'** 'and they (staff) sometimes, particularly one (staff), gets a bit cross if Mum doesn't want to take part, but she doesn't want to take part' 'it should be your choice' 'they don't need to be encouraged. It's their choice'	Resident doesn't want to move Mother doesn't want to take part Family perception that residents don't need to be encouraged, it's their choice
FAM03 (CH02)	'It's her choice at the end of the day'	Resident's choice to take part
FAM07 (CH03)	'it's her fault that she refuses do you know what I mean, they can't force her can they'	Staff can't force her to take part It's her fault for refusing
FAM08 (CH03)	'it's their choice'	Residents' choice to sit and not move

Transcripts	Motivation/get up and go	
ST01 (CH01)	'we don't know if we are going to be able to get teams in this time…hmm…because it's illness, and getting them out and try to motivate them to do stuff…that is a hard, hard job' 'depending on their moods, depending on their health, yeah…motivation…that I think is the biggest thing' '…and a little bit as well on how you can motivate them…in their case it's quite hard to get them to do that, to do whatever…'	Perceived barriers of getting a team for next sports day Hard to motivate residents to do stuff Barriers to getting residents involved Residents' motivation is the biggest thing What she has learn from MM project
ST02 (CH01)	'it's hard to motivate them sometimes. It is a job' 'once they start, they are there...it's just hard to get the get up and go to start'	Hard to motivate residents Residents lack motivation Get up and go
ST04 & ST05 (CH01)	'some of them just can't be bothered to be honest'	Barriers to taking part in activities Can't be bothered
ST07 (CH02)	'a lot of them are motivated themselves, so you will see some walk all the way from the bottom to the top because it's a long corridor isn't it. Some will just go and do it anyway'	Residents choice to do own physical activity Positive choice Walk corridor Personal motivation
ST10 (CH03)	'not bothered (dim mynadd) sometimes…sleepy…it depends to be fair…it's hard to tell'	Barriers to taking part Lack of motivation Dim mynadd
ST12 (CH03)	'lack of confidence, can't move, can't be bothered (dim llawer o fynadd), tired…'	Barriers to taking part Lack of motivation Dim mynadd
ST13 (CH03)	'sometimes you just have to persuade them a little bit "cmon let's go and do this now', but once they come they enjoy it, I think they forget that they said 'no' and then they enjoy playing'	Shows lack of motivation
RES03 (CH01)	'first thing in the morning I usually go and have something to drink and eat, and then I go for a walk. I have to have a walk every morning' 'I have to walk every day otherwise I've had it' When I told her that the sports week will be happening again: 'www *chuckles* we've got to get ourselves ready then!'	Motivated Chooses to go for a walk
RES04 (CH01)	'dw I yn ddi-gychwyn sobor…dw I yn neud ddim byd te' 'I have no get up and go…I don't do anything'	No get up and go Does nothing

Transcripts	Shared experiences	
ST02 (CH01)	'everybody was together…I thought that was good to tell you the truth' 'it was quite good, it was a laugh really' 'it involves them with their parents or whoever they have in the home'	Sports day – residents and staff from different home were together and shared the same day/experiences Staff had a laugh with the residents during sports week. It was an experience for both staff and residents Involving families in activities Shared experiences with family. Walking Wednesday
ST09 (CH02)	'It was great yes, fun. Everybody enjoyed that'	Preparing for sports week- everybody enjoyed the experience

ST10 (CH03)	'it brings everybody together in a way doesn't it. They had fun whilst doing it as well, plenty of laughing was going on here'	Sports week
ST11 (CH03)	'I think just being together competing, they met new people, some saw other people they knew before coming into the home, and some of them were socialising with other people you know and enjoying themselves...and other staff too, all staff mixed together…I know we were competitive with our own home, however, everybody supported each other and it was fun' 'the school children come here, and they have been playing the parachute with the pompoms…they have a lot of fun seeing the different coloured pompoms flying across the room, and the children looking after them and running after the pompons to throw them back in'	When asked what she enjoyed the most about the sports day Residents and staff from every home mixed together and shared the same day/experience Shared experience with school children that come into the home. Parachute and pompoms Intergenerational
RES03 (CH01)	'last year it was really good that was and we all thoroughly enjoyed it…we really did...' 'we all had so much fun that day'	Sports day All enjoyed it Fun
FAM01 (CH01)	'we did catch a falling star and put it in your pocket' *laughs* *daughter look at Mother and both smiled as if they enjoyed it*	Daughter took part in physical activity with her Mother Dawns I bawb?
FAM08 (CH03)	'…but the people who had gone to the DementiaGo with him, they had such a good time they were talking about it for long and they used to say "do you remember that day we went to the DementiaGo" and "do you remember this" and "do you remember that", then they would go around and they would say "do you remember…it was your Dad that won the thing" because he wore the medal. Oh for months after they were still bringing the subject up to people who were here, they kept collecting memories from the day because he was going around with his medal. If you wanted a man to say that this DementiaGo thing is a good thing, well Dad was the one to do so!"	Shared experiences Talked about it with each other for months All shared a happy day

Transcripts	**Expectations/surprised**	
ST01 (CH01)	'when the council decided to do the DementiaGo Olympics and I though 'oh my god they are going to have to move that much…www' I really didn't think that they would actually do it, but it was fab! It was fantastic, you know it was a really good thing, even the ones that were a bit reluctant enjoyed themselves'	First impression of sports week Unsure at first but it was fab Surprised at residents
ST07 (CH02)	'a lot of them could do much more than what I expected, I was shocked!'	Sports week Shocked with residents' abilities Could do more than expected
ST08 (CH02)	'we didn't think a lot could do that, but on the day, oh wow, some of them were so competitive!'	Sit-to-stand Sport day Surprised with residents' abilities
ST11 (CH03)	'…everybody enjoyed that you know, even the people we didn't think that would' 'it was quite good. It gave us some ideas and stuff you know. Yes, yes it was quite interesting actually'	Sports day Surprised with residents MM workshop. 'actually' - didn't expect it to be interesting? Surprised with how interesting it was?
ST13 (CH03)	'they weren't sure of it, I wasn't either to be honest, because I was thinking "hmm sports day" because I wasn't sure to begin with I just thought "oh, ok", but once we were there and could see…it was really nice, do you know what I mean? It's their own sports day isn't it, a sport day for older people'	Perception of sports day at first
RES02 (CH01)	When asked if she thinks there should be more exercises going on:	

	'this won't go any further will it…I can't understand why, especially if they have had an operation, one lady has had a stroke, and I thought there would have been continued physio/exercises for her after that…but nobody comes or does any exercises with anybody…'	
RES12 (CH03)	'these girls, or women (residents) I should say…I didn't think they could do as much as they did' '…kicking the ball to get a goal, I never thought that they would do it to be honest with you'	
FAM04 (CH02)	This participant (brother to one of the residents) has planted herbs in the garden thinking residents would go out to the garden to smell, but they don't 'you know these sensory things, herbs and stuff…well I thought that they (residents) would like to go there to touch them and smell them and see you know'	This family member has planted herbs etc in the garden for residents to smell, touch and see but it hasn't worked like he expected. Not a lot go out to the garden

Transcripts	**Ways of encouraging residents to take part/tactics/techniques**	
ST01 (CH01)	'sometimes we take turn because if I talk to you today, you might not be in the mood to talk to me, so someone else will come and tell you exactly the same thing and you'll do	Let other staff try
ST02 (CH01)	'we just try and try you know'…'we go around all of them so the opportunity is there for all of them to come you know'	Keep trying
ST03 (CH01)	'perhaps go around it a different way or word it differently…or suggest that they take part or suggest they help you in which in turn then makes them take part' 'if you can get people to watch they will want to take part later on. If you can make it their idea rather than yours…their decision yeah'	Word it differently Suggest they take part of help Make it their idea rather than staffs'
ST04 & ST05 (CH01)	'we try and encourage them but you can't be seen to forcing them to do something they don't want to'	Encourage, can't force them
ST06 (CH02)	'well if they say they don't want to then we leave them, and maybe we will go back and ask them again later, and they say 'no' again'	Leave them and go back and ask them again
ST07 (CH02)	'once they see it (the activity) they would join in afterwards after watching'	Do activity in the same room so that they can watch/see what is happening
ST08 (CH02)	'we have a lot of people who don't want to join in, and then if we realise that there are more of them (people who don't want to), we do the activities in that unit, and well, by the of the activities everyone has joined it…they like to sit and watch for a little bit, and then with a little bit of persuasion and a little bit of nudge and a little bit of fun and laughter, they just do it'	Do activities in the unit so others can watch
ST10 (CH03)	'we try and encourage everyone. We never put pressure, just encourage…and I will sit down and talk to them about how important it is, for example when we do light exercises, because we can do that in their chairs'	Explain importance
ST11 (CH03)	'Try and persuade, you can't force them to take part…let them watch everybody else having gun…you have some that will take part after a little persuasion…some will take part with no persuasion' 'sometimes you talk and show what is going on, and they will go "oh I'll come then'	Let them see that everybody else is having fun Talk to them and show them what is going on
ST12 (CH03)	'encourage them to take part and try and talk to them…tell them who else is taking part…maybe then they would take part, you know'	Tell them who else is taking part
ST13 (CH03)	'leave them and try again later or another day'	Leave them and try again
RES03 (CH01)	'I often say… "I'm going into town…does anybody want to come?"	Resident tries to encourage other residents to go walking with her
FAM04 (CH02)	'I personally would say "ok you don't have to do it, but come and sit there so we can see what is happening"'	
FAM08 (CH03)	'can't be bothered (mynadd). Mum is a bit like that, she needs motivating because she will say "oh I won't bother going" but you need to say "oh no we are going", like you would with children…not	Treat them like children, tell them what we are going to doing instead of asking them if they want to do it

	give them the choice “do you want to do”... “we are going to do”….so “this is what is going to happen this afternoon” instead of saying “do you want to do this this afternoon?” When asked if she thinks moving is important for her Mum: ‘I think it is, she wants to move. One of the things she says a lot is “I want to move, I want to move with the walking frame” “but they (staff) don’t let me have a walking frame” she says. But yet again, I think, she is not that safe with the walking frame’ ‘because of the parkinson’s her leg isn’t great. But, she wants to move and I think if she wants to move then someone should try and do it with her, and maybe something like this DementiaGo would help her want to more, and give her the opportunity to move more’	 Staff stop her Unsafe Parkinson’s

Transcripts	**Facilitators to movement**	
ST01 (CH01)	‘you have half the lounge carpeted and the other one is just flooring (lino) which enables you to do different types of activities, you know…it is quite good’ ‘as you can see the corridors are long, so that little bit of a walk could do them quite good’ ‘I think the morning probably, and maybe mid-afternoon or something like that’ ‘we know in a way how much they can actually do and how you can push them’ ‘yeah they were both there (manager and assistant manager), that was good, and I think they enjoy that’	Physical environment- flooring, long corridor Time of day. Best time to do activities. Facilitator/barrier Staff knowledge of residents Support of manager. Sports day Manager’s enjoyment
ST02 (CH01)	‘they walk quite a bit from the bedroom to the lounge and stuff, some go for their daily walks with their zimmers (walking frame) along the corridors’ ‘it depends of how the shift is going on the day’	Physical environment- corridors How the day is going. Facilitator/barrier
ST03 (CH01)	‘there’s plenty of room isn’t there, along the corridors etc. The lounges are big so there’s a good area to do activities’ ‘normally the afternoon, early afternoon yeah…after lunch..’ ‘…some people are tired but it is always the same people who want to take part in things and some that won’t’ ‘if you can get people to watch they will take part later on. If you can make it their idea rather than yours…their decision yeah’ ‘they could come in…that might then push the residents to get involved if the families are involved’	Physical environment- plenty of room, corridors, big lounge Time of day. Best time to do activities. Facilitator/barrier Residents’ willingness to take part. Facilitator/barrier Techniques. Make it their idea and get people to watch Possible impact of family involvement
ST04 & ST05 (CH01)	‘she is quite keen to see activities being done’	Support of manager

ST06 (CH02)	'we have machines to bring them through'	Equipment to bring residents with limited mobility through to the lounge when activities are taking place
ST07 (CH02)	'once they see it (the activity) they would join in afterwards after watching' 'if you put a bit of music on they love it!' 'she pushes on that a lot actually (increasing movement in the home', yeah she does. She likes that we go to the workshops'	Techniques- do activities where people can see. Music Support of manager. MM workshop
ST08 (CH02)	'there are units where you can make tea, coffee, like little kitchenettes so that encourages them (residents) to do something, and then the main lounge for parties to come in and stuff' 'a lot of our floors now are laminate wood effect, which makes walking a lot easier and if we want to play with balls or something then it makes it much easier for us' 'me as a manager, I think it is a good thing. It is me that makes sure staff go on these courses (workshops), I don't ignore them at all, I try to get staff to attend…I try and rotate (staff)….' '….I think it's important…I will by any type of equipment that they need, I will put more staff on to cover if I can as well…' '…from talking about managers as well, I have a manager that makes sure that we also do our job, and she also think that something like this is importance. She was in the sports day, and she encourages us to do as much as we can with DementiaGo and anything out there in the community'	Physical environment – kitchenettes, main lounge, laminate flooring Support of manager and manager's manager. Positive attitudes towards PA/increasing movement in the homes
ST09 (CH02)	'there is a garden as well where people can go for a walk. The village itself is flat so you can go for a walk, go about. There is access to the village' 'I think before lunch or after lunch, there is plenty of time then' 'There are people who love music, Dawns I Bawb come here…that's what I like to do, get them moving like that with music and stuff'	Garden, outside, village, accessibility Time of day. Best time Music
ST10 (CH03)	'there is plenty of room here, and there is one room, communal we call it, the middle lounge there, we go there to do (activities)' 'we do it in groups as well…I am in this unit, and so I take charge of here…we play skittles or we play cards, so there is quite a lot of stuff going on'	Physical environment- plenty of room, main lounge/communal room), units Staff doing activities within their own unit
ST11 (CH03)	'there's room in the units and we also have the main lounge in the middle there too, plenty of room there, move the sofas and stuff, and we can also go outside to the garden...when it's sunny obviously. They love sitting there when it's sunny' 'they like to have barbecues and sit outside, and last year there was planting going on' 'some that can come out will come and watch you water (the plants) and stuff' 'there is a small shop in the middle, so some walk down there….those who can walk will walk down, and there is room for them to sit' 'Starting next month, we are going to start once a month, the first Monday of every month is the intention, Sera in the kitchen is organising it…to do like a small café…and Sera has bought small tables to make it look like a café, and she has bought a black board to put the menu up and stuff' 'get a crowd together, and play together instead of having one person to do something…they tend to do it together and enjoy it more together' Staffing – 'that is not a problem, Wendy can sort out more staff'	Physical environment- units, plenty of room in main lounge, outside garden Outside activities- BBQ, planting Shop (in the home) Café (in the home)

	‘the school children come here, and they have been playing the parachute with the pompoms…’ ‘…they have a lot more fun seeing the different coloured pompoms flying everywhere, and the school children looking after them and collecting the pompoms and throwing them back in and stuff’	Do activities together as a crowd instead of individually Support of manager School children coming into the home.
ST13 (CH03)	‘we have a big garden outside, and we did a bit of practicing for the DementiaGo (sports week) there in the summer, and we have a big lounge…so there is plenty of room to practice’ ‘in the morning, usually, because they tend to get tired in the afternoon sometimes, or after they have a little nap…have 5 minutes to themselves’ ‘sometimes you just have to persuade them a little bit “c’mon let’s go and do this now’, but once they come they enjoy it, I think they forget that they said ‘no’ and then they enjoy playing’ ‘they are quite positive…more now after they’ve been’ (sports day)	Physical environment- big garden, plenty of room Sports day (makes them practice-moving) Time of day. Best time. Facilitator/barrier Staff persuasion Positive family perception
RES02 (CH01)	‘I have to get my radio times’	Goes out to the shop to get her radio times magazine
RES03 (CH01)	‘I don’t do anything in the garden but I like to go out and see what is going on in the garden’	Garden Facilitator
FAM04 (CH02)	‘it is quite easy for them to go to the garden, yes…up the corridor here, and then there’s a door that takes them out’	Access to garden Outside
FAM06 (CH03) FAM06’s sister	Talking about DemGo community class ‘it would be a changer for her to go there to try wouldn’t it’ When I said that she (FAM06) could go too: ‘well yes it would be nice for us to go wouldn’t it, and as a company for her in a way’ ‘I could come to accompany her’ Gaynor: 'and you (referring to FAM06) would come with me, it would be good for me to have company’	DemGo community class Family involvement Sister taking part too

Transcripts	Barriers	
ST01 (CH01)	'it all depends…I think it depends very much in the mood…and obviously as well you know their health, because like everybody else you know…we tend to get colds or upset stomachs and all that…but in their respect if they get a cold it's a little bit like 10 times intense for them…so it varies'	Mood Health
	'yeah they tend to nap…' 'they tend to do a little siesta'	Time of day- tend to nap after lunch
	'I think illness mainly, and it depends of their mobility as well. Because hmm apart from the fact you illness prevents them from moving and stuff, hmm I think the state of their health as well, how they can actually move'	Illness Mobility Physical ability
	'there might be a few that would probably be concerned about them you to know to actually move a bit, and because they tend to think "oh my Mum can't see" or "she can't hear very well" "oh no she's going to fall"'	Negative family perception Hearing (hard of hearing) , Sight (visual impairment)
	'if they don't want to then they don't want to and that's it. You would ask a certain amount of times you know but…it's their choice'	
	'I think because most of them you know, they can't hear very well, and that stops them to socialise'	Resident resistance to taking part/residents choice
	'going back to the other question, you know how do you feel about them *residents* moving, it would have been nice to actually have more support you know…in that respect, because obviously you are scared to hurt them and you don't know how to actually explain very much how to do things'	Hearing Lack of understanding of function/lack of support/lack of training
	'it's illness, and getting them out and try to motivate them to do stuff…that is a hard, hard job' 'you won't have many that would be walking that much, it's always you know the certain ones, because it could be the age as well'	Illness Motivation (residents lack of motivation) Age
	'if we had the time, yeah'	Lack of time (when asked if they would want to do more physical activities with residents if they had enough time in the day)
	'it's hard to get the staff involved, it's a hard thing to do and sometimes there's clashes as well on who does what, you know, and who want to work with the other. So at the time you were doing this DementiaGo thing (sports week) the staff that was before, they just didn't want to get involved much…yeah so I think that's a very hard part'	Staff involvement/clashes on who does what/responsibilities Negative staff perception
ST02 (CH01)	'it is really hard to motivate them sometime. It is a job'	Motivation (residents lack motivation)
	'some will come straight away but some will say "no not today". It just depends on how they are feeling on the day you see'	How the resident is feeling on the day
	'it depends on how the shift is going on the day'	How the shift is going/time for staff to do physical activities/lack of time
ST03 (CH01)	'mobility issues…and obviously dementia…it's getting across what you are trying to do isn't it'	Mobility Dementia
	'some people are keen aren't they but others…and as they get older they lose interest I think yeah…and they are tired'	Lose interest Tired

	‘it’s always the same people that will take part, perhaps one or two, and everybody else wants to either watch or not get involved’ ‘some people visit often don’t they but people are pushed for time’	Resident resistance to taking part/residents choice Staff perception of family involvement in activities –lack of time
ST04 & ST05 (CH01)	‘the only thing I would say on this is maybe staffing’ ‘some of the residents don’t get up that early. There’s a few that will have a lie-in until about 11am and they would miss anything that was on in the morning’ ‘some of them just can’t be bothered to be honest’ ‘yeah for some it’s motivation isn’t it’ ‘we’ve got a lounge, it’s not huge’ ‘…but then we could move things over and it could be used’ ‘it would be lovely if our ground was more level and more protected’ ‘it’s not easy to get around this garden’ ‘I do think the garden needs to be a bit more age friendly, it’s very uneven there’	Staffing (when asked if anything prevents them from being able to set up an activity) Time of day (if activities were in the morning) Motivation/can’t be bothered Physical environment- have to move thing to make room for activities Barrier to going outside Safety risk
ST06 (CH02)	‘some just don’t want to’ (take part in activities) ‘you are so busy in the morning…’ ‘…we have started to have one extra staff on in the afternoons now or there is only 3 of us on late, so it is hard to find the time you know’	Resident resistance to taking part/residents choice Lack of time
ST07 (CH02)	‘probably us just busy…Tired, or some with dementia or just don’t fancy doing it, or pain maybe, or that they just might not be up to it on that day’	(when asked what sort of things stops residents from moving) Staff are busy Tired Dementia Don’t want to (residents resistance) Pain
ST08 (CH02)	‘they are in a place where they think that they have done their share over the years and stuff’ ‘the ability is there (to help staff lay tables) but they have the attitude of “you get paid to do it” “you should do it for us”’ (what prevents residents from taking part): ‘illness more than anything, depends on their illness/condition and is there are side effects with medication…get up and go as well I think, that’s it…motivation…and then our side, staff, because we are so busy we can’t give them 100% either and say “right, c’mon we are going to do this”’ ‘they see our faces, the staff, and they know that we are there to care for them. When people come in they tend to join in much more because it’s not us, staff’ ‘we have to slot it in whenever there’s time really’. ‘health and safety must come first, so we tend to say “we are doing it on Monday” but don’t give them a specific time’ (in case something comes up and they can’t do it)	Residents’ perception that they have done their share over the years (don’t have to make their own cup of tea) Resident perception that the staff should do everything for them because they are getting paid Illness Side effects of medication Get up and go (motivation) Staff are busy Staff doing the activities /leading activities Lack of time. No timetabled activities

	‘there is a lot of staff who are nervous of the activities side because they have to take the lead and they haven’t been trained how to’	Staff confidence Nervous
ST10 (CH03)	‘some have parkinsons’ ‘at the moment I can’t say that there is a lot of things (things that prevents residents from taking part)…can’t be bothered sometimes…tired…’	Parkinsons Lack of motivation Sleepy/tired
ST11 (CH03)	‘not well sometimes, family visiting and stuff, lack of staff to lead (activities)…not as such lack of staff here but like I said earlier…something going on maybe…somebody not well…somebody coming in…paper work needs doing and stuff’ Why they couldn’t go to the boccia tournament: ‘transport more than anything…’ ‘…we haven’t got our own mini bus. O ddrws I ddrws (their taxi/transport service) are busy with school runs in the mornings and taking people to day centres or wherever they go. That (transports) is what restricted us a little’	Residents unwell/illness Families visiting Staffing – something going on Paper work Transports (to go outside to activities/events) e.g. boccia tournament
ST12 (CH03)	‘depends how busy it is here’ ‘lack of confidence, can’t move, can’t be bothered, tired’ ‘sometimes it’s the time to be able to fit things in’	Busy at the home Lack of confidence Mobility Can’t be bothered/motivation Tired Lack of time to fit physical activities in
ST13 (CH03)	‘thinking that they can’t sometimes’ ‘sometimes they hold back a little, but once you’ve got them to do it they do it…as if they are shy’	Lack of confidence/thinking that they can’t do it Shy
RES01 (CH01)	‘well it used to be sewing and knitting but I can’t see to do it now’	When asked what are her interests/hobbies Eye sight
RES02 (CH01)	‘well I haven’t been doing it recently…I didn’t go and do it in the hot summer because it was too hot…and…I got pneumonia…’ ‘…it took a lot of time to get stronger again’ ‘I didn’t have any muscle power…so I have been very lazy since…anyway a couple of weeks ago I thought…you have got to stop…so I have started walking to town again’	Barriers to going for a walk outside: Too hot outside (Weather) Illness Lazy Started walking to town again
RES04 (CH01)	‘I don’t move enough to tell you the truth because I suffer with Parkinson’s and then that limits me extremely’ ‘I feel like I should do more but it’s so much effort’ ‘I have come to the point now when I can’t do a lot of things…I can’t play the piano…this parkinson’s is everywhere, it is through the body so I have come to the point where I can’t play the piano and then there’s nothing else that I can do really’ ‘I have never been one for things like that…competing in the Eisteddfod was what I used to do outside of my work’ ‘I have never been one for doing physical activities’ ‘there is a blame on me because I don’t get out of this room you know’ (resident doesn’t get out of her bedroom and doesn’t participate in activities) ‘I could move more I think but I have had terrible falls and have hurt myself with them’ … ‘you lose your confidence…and your balance of course’	Parkinson’s disease Effort Resident not interested in PA Perceived loss of ability to do things Falls Loss of confidence and balance
RES06 (CH02)	‘I have gone too old to do much’	Age – 92 years old

RES08 (CH02)	When asked what's stopping her from doing exercise: 'well I can't do it myself with my legs properly ia, they are still hurting me you know…there's water on the knees…oh they are just terrible you know'	Water in knees
RES09 (CH03)	When asked if she helps with gardening or laying the table: 'No I can't do that, I would love to' When asked what is stopping her: 'arms and hands, I wouldn't be able to stand to do it either' '…bones in the feet have gone…knees and hip, and I can't have an operation' 'the feet, the hands, arthritis…a little bit of everything you know…and they I can't have operations on them, they have said that it's too dangerous for me…and so the bones in the feet have gone, so those kinds of things….and the hands…I can't do a lot with my hands, I used to do a lot of knitting but they (hands) have gone funny now. But there we are, I do it and I still knit'	Pain in hands, arms, knees, hips When asked if there's anything that restricts her from taking part in physical activities Physical function
RES12 (CH03)	When asked if he sees himself as being quite active: 'I used to be until about half a year ago, this parkinsons has had it's told on me'… 'it has taken over my life' When asked what stops him from moving more: 'this shaking and I have become scared of falling' 'what I have is I take diuretics (tabledi dwr). They make me go to the toilet every minute. It is a problem when I go somewhere'	Parkinson's has taken over his life Shaking Fear of falling Diuretics When asked if the diuretics stop him from going out he replies 'yes'
FAM01 (CH01)	'eye sight. Yes, she is registered blind which is not always picked up on I don't think' '…she's had broken hips…she's old…she's 93 (years old), so she can't move very well and doesn't want to. She just wants a peaceful life'	Eye sight Broken hips Age/ old Limited mobility Resident's choice
FAM03 (CH02)	When asked what sort of things would stop her grandmother from taking part in PA: 'it depends of the activity and it depends of how she feels' 'and sometimes she says that she doesn't want to do anything too childish, she says that about things sometimes' 'we have to remember that she is 96 (years old) as well…she is actually old isn't she'	Depends on how the resident feels 'childish' activities Old age
FAM04 (CH02)	'well Dyfan (changed name) as learning difficulties to begin with, he has physical needs as well, so it is not easy'	Learning difficulties Physical needs
FAM05 (CH03)	'Mum is quite unstable on her feet so she couldn't do anything by herself, somebody would have to be stuck with her all the time'	Balance/unstable
FAM06 (CH03)	When asked what sort of things would stop residents from taking part in physical activities: 'embarrassed maybe' 'she can't do it with her legs, only with her arms. I thought she would get to walk around more to strengthen the legs, that's what would be best for her'	Embarrassed Limited mobility – Parkinson's

FAM06's sister (Gaynor, changed name)	Gaynor (changed name) (FAM06's sister): 'I used to go by myself, but they have stopped me from going now, I am not allowed to go by myself, one of the staff has to come with me' When asked if she would like the opportunity to go more : 'yes'	Staff Staff stopping her from walking by herself because of her safety
FAM07 (CH03)	'hmm she doesn't move enough but I know why…because she is in pain with every step she takes' 'she won't go on the minibus now because her hip is hurting. She says "the bus jerks me" , but maybe if she had the offer and somebody would say "cmon it's your turn this time' maybe she would go'	Pain in hip Maybe she could be persuaded to go
FAM08 (CH03)	'can't be bothered (mynadd). Mum is a bit like that, she needs motivating because she will say "oh I won't bother going" but you need to say "oh no we are going", like you would with children…not give them the choice "do you want to do"... "we are going to do"….so "this is what is going to happen this afternoon" instead of saying "do you want to do this this afternoon?"	Barriers Can't be bothered Ways of encouraging

Transcripts	**Staff- resident relationship**	
ST01 (CH01)	'you get to know them a little bit more, yes, definitely…it's like a team building kind of thing'	Get to know them a little bit more
ST02 (CH01)	'you somehow get more 1-to-1 with them, although there might be a crowd of us there but you still do'	1-to-1
ST03 (CH01)	'I think it gives you a bit of 1-to-1 time with some people as well, we can chat'	1-to-1
ST04 & ST05 (CH01)	'you get a better rapport don't you'	Better rapport with residents by doing activities with them
ST08 (CH02)	'they get to see a fun side to staff as well…I think that puts them at east and relaxes them more so we get more out of them as well'	When doing activities Co-operates better
ST09 (CH03)	'you get to know them and what they like doing, and just laugh. It's fun isn't it'	Get to know them
ST13 (CH03)	When asked if doing activities brings staff closer to residents: 'Yes, you have fun with them don't you' Learn 'what they like and what they don't like doing'	Have fun with residents Get to know what they like/dislike
ST08 (CH03)	When asked if she gets on well with the staff when doing PA: 'oh yeah I get on alright and they say "well done Olive cmon, cmon!"	Staff encourage the resident

Transcript	**Personal impact**	
ST01 (CH01)	'I do try to do more exercise' 'Just walking at the moment, and I've started karate'	Motivated herself to do more exercise Started karate
ST02 (CH01)	'I have started aqua aerobics…I have been twice. It is quite good actually!'	Started aqua aerobics
ST08 (CH02)	'I really enjoyed the sports. I don't get a lot of chance to be honest because there's a lot of work you know'	Opportunity to do something different Brought her out as well to get involved with residents instead of doing managerial work
ST09 (CH02)	'Confidence…it's only now I am starting to find it after all those years, after being on the courses too'	Increased confidence

	When I said that I thought her confidence has increased as well: 'Yes, a lot. In the last 2 years I would say. Maybe before, when I was younger, I would have thought 'oh people are sat in front of the television' and that's it…but that's not it is it, it is important to move isn't it'	Learned a lot Now realises that people need to move more and it's not the norm to be sitting in front of the TV all day anymore
ST10 (CH03)	Everybody was praising, especially Iwan. We have lost Iwan recently. He had really enjoyed and we didn't hear the end of it to be honest, he was so proud and he was wearing his medal every day, and showing the trophy, and for me...seeing a smile on his face every day…well that made a big difference in his life'	Highlights personal impact the sports day had one of the residents' life
ST11 (CH03)	'when we do something it makes you do it too doesn't it…I don't really have a lot of time to do sports…well I walk…I walk everyday…but in terms of moving in another way…'	Gets staff moving too Looks at it as her own physical activity too?
ST13 (CH03)	'To be honest I am quite shy, I am a bit shy, but this benefitted me…because I have had to haven't I, well have to is not the word, but I have had to go with them in a way (to the sports day), and I have had to join in, so yes it is good. It is good for your confidence as well isn't it' Learnt : 'not to be so shy and to just join in with them…my confidence has grown, yes'	Increased confidence Out of comfort zone

Transcript	**Suggestions (practical training is definitely highlighted to be needed) haven't put any quotes here but it is seen in other tables. The need for staff rotation could also fit in here**	
ST01 (CH01)	' I would like more support…someone who would actually come and shows us you know even some exercises sitting down…' 'I would have liked much more support on how to actually do exercises and get them moving, in that way they could see you know from someone who is from like the DementiaGo…so it's this type of things where those people come to see and show them how to do exercises and how to do it well' 'I think I could go on more about you know the support thing that I would like to have'	Support Demonstrations Seated exercises Professional help
ST03 (CH01)	'I think if you bring somebody in it would bring in some fresh ideas and perhaps initially show us what we could do and how best to go around things and then leave it to us after'	
ST04 & ST05 (CH01)	'my opinion of DementiaGo would be they (residents) need encouragement, you've got to make it fun…not so much childish…I would say more…you need to involve them more' Instructor would be better coming from: 'probably the outside but we would be involved too' 'I think music is important but you've got to understand that there's a 100 year old then there's a 60 year old so you've got to try and compromise' 'I don't think the scarves with them waving their arms like that *waves arms as if she had the scarves* …I found it quite…well..what's the word…patronising I thought it was! Because men don't wave scarves around do they' 'it's not all for women is it' 'I don't know about a little snooker?'	An instructor to come into the home to do seated exercises with residents The use of music Make PA more inclusive for men

	'yeah or a table tennis thing where you could just put a net over a table, you know like that one we have in the lounge is big enough, because you could play that sitting down, you don't have to run around do you' 'I think as well it would be nice, when they have had that (activities like table tennis), like halfway through have a break and have like a cup of tea and a chat and a cake, you know, we've got a room there that would be perfect for that. Even if you just had like 8, then so be it, **but let them get involved in serving the tea if they can…let them feel as if it's a job and they're going out to work'** 'I think they need to rotate, because upstairs don't really come downstairs' 'yeah so they (people living downstairs) tend to benefit more…even though we do ask the residents upstairs'	Suggestions for more inclusive activities for men. Snooker Table tennis Suggestion for home to rotate exercise/activity location…how about mixing the residents (from upstairs and downstairs) so that they do activties together?
ST06 (CH02)	'It might pay for someone to come here to see how many people take part right out of them all'	About resident participation, see how easy/hard it is
ST07 (CH02)	'that is what was really good about the sports day, I think it pushed us more' (the fact that they were with other homes) 'Probably, because when you practice for it (sports day) they do exercises more often then don't they, but after the sports everybody forgets about it really' (momentum is gone…stop practicing…stop exercising)	Would be nice to do more with other homes When asked if she thinks it would be a good idea to have sports day more than once a year There's a need for more often events to keep the momentum going as the staff member as said that they forget about it and stop practicing after the sports day…which is not the point of the project. The aim of the project is to encourage more daily movement in the home not just once a year Shows lack of understanding?
ST08 (CH02)	'I have always thought that it would be nice to have an activity co-ordinator to go around the homes…even just one shared between the homes…once a week, increasing confidence and setting tasks for staff to carry out' 'we would like it both ways really…for us to go out and mix with people (in the leisure centre for example), but for people to come into the homes as well' When asked if somebody came into the home to do seated exercises and stuff: 'yeah something like that, that would be great. I could then put more staff on as well to increase their confidence…it's taking the lead isn't it, it's follow suit isn't it'	Activity co-ordinator for residential homes
ST09 (CH02)	'maybe if they were made more aware of it, like me now, I have been on the last course (MM workshop), so maybe more could go on it' 'maybe have more people coming here…a lot of activities and stuff coming here, so more ideas'	Suggests that more staff would get involved if they understood why and went to the workshop Increase awareness of importance for all staff When asked if there's a way that the project can be improved
ST10 (CH03)	'I think it works fine. Yes they do take part, it works in that way, but yet again maybe a new face would make a difference as well' 'it is a good idea….it's working at the moment and I have more than happy with how it is'	Somebody coming in might make a difference Opinion of DemGo when asked if there's anything that could be improved

ST11 (CH03)	'I don't know, it is quite good isn't it. Think about different things to do maybe, hmm…transport…that's our biggest thing. We are a bit in the countryside here aren't we' 'you will have to get us a DementiaGo minibus!'	Suggestion for improvement transport
ST12 (CH03)	'if somebody from your place (DementiaGo) could come here to do things with the residents now and again…because the things (equipment) are here anyway aren't they'	Somebody to come into the home from DementiaGo now and again
ST13 (CH03)	'if someone came in and showed you more, because…you have ideas and you can say "lift your arms" and do light exercises, but if someone learnt…because I am not a sports teacher am I, so if someone came in to show you how to do it with them and that they (residents) would be ok '	Someone to come in and show the staff new ideas, and teach the staff how to do it so that the residents are ok/safe
FAM01 (RES01 interivew) (CH01)	When asked if she could think of any improvement to activities, the daughter's reply: 'more music, you (Jinnie) would like more music wouldn't you…and less television' 'yeah moving with music…could be seated but moving yes…'	Moving to music
RES02 (CH01)	'yeah I think there should be regular exercise…I mean…everybody should exercise shouldn't they…I mean…I don't really…I just hope my walking helps….when I came here I thought there would be exercise days…but there aren't' 'tai-chi or stuff like that…that's something that you can do isn't it'	Suggestion Positive resident perception of PA Tai-chi
RES08 (CH02)	'I wish I did something that I can make and buy after de. That's what I would like de'	Suggestion for activity Crafts , use of hands
FAM03 (CH02)	C: 'I try and drag her out there (to activities_ and I say every time I'm here, 'Dilys (changed name) you should get up from that chair at least ten times a day, and move' C: 'like a rule, and I feel that maybe the staff should do that with all of them as well yeah…"move"' C: 'do you know like a fitbit bracelet…I wonder if there's anything maybe for a tenner (£10) like a reminder bracelet, so for example we will say that it would remind them to get up and sit down every hour and a half…it would be like a small reminder for them' C: 'if every single one of them got up (from chairs) 10 times a day, that would help them then to get up from the chair quicker wouldn't it, because they are used to doing it 10 times…that is then less stress on the staff…they have moved…these things are basic isn't it...this is basics isn't it' C: 'I would say that the key thing is to motivate the staff, keep them highly motivated, make them aware of these things and keep them motivated' … 'keep the momentum going and then maybe every month someone like you comes here'	Reminder bracelet Get up from chair 10 times a day Get used to it and do it quicker Less stress on staff
FAM06 (CH03)	Saying this to her sister: 'you would like to walk more with your walking frame wouldn't you' When I asked if she needs help to walk: 'yes, if they would go there and do exercises with them every now and again every day, walk along the corridor or something' Gaynor (changed name): 'I used to go by myself, but they have stopped me from going now, I am not allowed to go by myself, one of the staff has to come with me' When asked if she would like the opportunity to go more : 'yes'	Resident wants to walk more but staff don't like her going by herself because she is not safe Suggestion Needs 1-to-1 to go walking This shows that the residents wants to move more but is restricted…suggests that more 1-to-1 moving is needed?
FAM08 (CH03)	'turn their ankles or move their hands, they could do that whilst sitting watching the television. Just give them some hub, plant the idea for them to do something in their chair. Sometimes you don't think about these things until someone says it is good for them and of benefit'	Plant the idea for residents to do PA in their chairs whilst watching TV

Transcripts	Staff knowledge of residents	
ST01 (CH01)	'we try to encourage them as much as we can. Sometimes we take turn because if I talk to you today, you might not be in the mood to talk to me, so someone else will come and tell you exactly the same thing and you'll do'	Tactics/techniques of encouraging residents to participate
ST04 & ST05 (CH01)	By doing activities with the residents: 'you get a better rapport don't you' 'you get chatting more whilst doing it, yeah'	
ST06 (CH02)	'we just do it (activities)…you don't do anything big with them…you know the residents, do you understand? So you know what to do with them' 'last week it was one of the ladies' (resident) birthday, the residents loved it, everybody was playing with balloons. You just threw the balloon and passed the balloon, they were throwing it you know, so if you're doing a little bit with them then you know what to do with them don't you. Maybe you're just making them move their legs, move their hands, you know, it's common sense more than anything else'	You know your residents Know what they enjoy doing
ST07 (CH02)	'I went to the sports day and I was shocked with how much they could actually do' 'you kind of know what to do with them afterwards' 'I can guarantee that by the end, doesn't matter what the activity is, they laugh, they talk more…there are some that get more confused because they are out of their routine, but **we know those people now** so we are careful of where we are moving them to, and what activities we are doing'	Increased staff knowledge of residents, surprised in their abilities Sports day Doing activities increases staff knowledge of residents Staff knowledge of residents Some get confused because they are out of their routine → maybe if physical activity is implement into their routine then they wouldn't get as confused? It could become a part of their routine?
ST09 (CH02)	'you come to know them and what they like doing and stuff'	Get to know them whilst doing physical activities
ST11 (CH03)	'you try and do what their interests are really, it doesn't have to be sports or something does it' (for example one lady doesn't do much PA but she enjoys helping the chef to make cakes…they will bring her the ingredients to mix which is still a form of physical activity because she is moving. Her daughter is FAM07)	Staff know their interests
ST13 (CH03)	Whilst doing physical activities with residents staff learn: 'what they like and what they don't like'	Increases staff knowledge of residents
RES09 (CH03)	'it's up on the door saying what is going on…so if we forget it is up on the door showing what's going on'	Put posters up on the door with upcoming activities

Transcripts	Positive perception of physical activity	
ST01 (CH01)	'Oh I think it's good, and they (residents) should do it. I'm for it, yeah. Even if it's a little walk you know, even if it's coming out of room you know for the afternoon, you spend the whole morning in the room but try to come…as you can see the corridors are long, so that little bit of a walk could do them quite good'	
ST02 (CH01)	'they (residents) need to move…they need to do a little exercise and different things or they are in a rut…sitting in the same place maybe and not wanting to do anything…that doesn't make them any good does it'	
ST03 (CH01)	'yeah I think it's a good idea because it keeps them moving doesn't it. If you can get somebody involved in physical activity then it's going to help them standing, walking etc. and getting about in general' 'the only activities I've ever really seen in previous homes that I've been in is like potting plants or having nails done and stuff you know…whereas it would be better getting up and about and moving more wouldn't it'	Link with perceived benefits
ST04 & ST05 (CH01)	'I think they should be encouraged to do it, yeah' 'they don't want to be sat in front of the television all day do they. Some people like it, but not everybody do' 'well I think they should move to the ability that they can manage so there's not point making them do the length of the corridors and things'	
ST07 (CH02)	'Yes I think it's ok, it's good. Use it or lose it!' 'I think it shows them that they can actually do it too…because sometimes they just go stuck in a habit of sitting in a chair watching television…I think that tires them more than anything!'	
ST08 (CH02)	'I think it's important for the individual to keep as much strength as they have in the muscles. The fact that they can lift their arm to feed themselves, wash their face…that is so important for the person to keep their dignity and stuff' 'it would be nice to have the main lounge open so that there would be tasks happening in the morning and afternoon every day, 7 days a week' 'me as a manager, I think it is a good thing. It is me that makes sure staff go on these courses (workshops), I don't ignore them at all, I try to get staff to attend…I try and rotate (staff)….' '….I think it's important…I will by any type of equipment that they need, I will put more staff on to cover if I can as well…'	
ST09 (CH02)	'I like anything to do with physical activity. I like to see just a little bit of exercise to move' When asked if she thinks it's important for residents to move and take part in activities: 'yes, very important, yes. Once somebody takes that away from somebody then that's it then. It's important to try and keep someone going all of the time'	
ST10 (CH03)	'I agree with it. It is a good thing. I think it's beneficial'	
ST11 (CH03)	'It is important isn't it…and for the people here, it's important, even though they do it in their chairs, it is important, and we try and get a little routine of them doing it you know'	
ST13 (CH03)	'it's good because they get to move and keep fit, even if it's just for 5 minutes or 10 minutes, it's better than nothing isn't it'	
RES02 (CH01)	'yeah I think there should be regular exercise…I mean…everybody should exercise shouldn't they…I mean…I don't really…I just hope my walking helps….when I came here I thought there would be exercise days…but there aren't'	Suggestion Positive resident perception of PA

	When asked if she thinks she moves enough during the day: 'no I don't because I really ought to be walking up and down the corridor if I am not going out…and I'm too lazy'	Resident perception that she should be morning more if not going out therefore suggesting that she acknowledges the importance of moving
RES03 (CH01)	'I think everybody should do that (keep active)…not just me'	
RES06 (CH02)	'it is extremely important. By not doing it you get old' 'for your health' 'I couldn't do much more than I already do you know'	Positive perception of PA Negative perception of his own ability
RES07 (CH02)	When asked if she think it is important to be able to move around: 'oh yes it is, you don't want to be standing in the same place all the time do you'	!!
RES08 (CH02)	(about keeping fit) 'it is important yeah, but I haven't got the stamina to do it have I' 'it's good yeah, it keep you fit and that. It's good, yeah. I wish I could do a lot of things but I can't really de'	
RES09 (CH03)	'well, keeping your mind younger is one thing I think, yes, yes, so it is very important I think'	Positive perception of PA importance Perceived benefit
RES12 (CH03)	'there's a need to do your best to try and be fit' 'because if you are going to sit and sit, then you will only sit won't you'	Positive perception of PA/keeping fit
FAM01 (CH01)	'I think Mum would rather be just left alone' 'I understand where you're coming from and that you want physical movement but it's not always the right thing'	**Negative** family perception
FAM02 (CH02)	'it is really because it keeps their minds going as well, not just their body, not just the physical things, it keeps their minds going doesn't it and also it's a bit of fun for them as well really isn't it'	
FAM03 (CH02)	When asked if she thinks if physical activity is important: 'yes, even if they only walk'	
FAM04 (CH02)	'it is important that someone moves. Someone sleeps better, eats better, and someone's life is better' When asked if he thinks that the residents should move more: 'I believe they should, if they have the ability then certainly they should move'	Positive perception of PA importance Links to perceived benefits
FAM05 (CH03)	'very important I would think so. Keeps their minds occupied and something for them to do'	Positive perception of PA importance
FAM06 (CH03)	'well sense says doesn't it, no one is supposed to sit in one place. If they can do it (move) then even better'	
FAM08 (CH03)	When asked if she thinks moving is important for her Mum: 'I think it is, she wants to move. One of the things she says a lot is "I want to move, I want to move with the walking frame" "but they (staff) don't let me have a walking frame" she says. But yet again, I think, she is not that safe with the walking frame' 'I think it is important, and I think it is important to keep them mentally and physically. It's easy enough for us sometimes not to be bothered doing something but it is important that we do. Moving is also important with going to the toilet, and with everything I think. It is very easy to not move, the muscles weaken, and once you stop moving it is easy enough not to be able to move then as well isn't it'	Residents wants to move more with her frame but staff don't let her Links with barrier Important to move Links with perceived benefits of moving

Transcripts	Staff rotation	These staff haven't had the opportunity to be involved with the workshops/sports day
ST04 & ST05 (CH01)	'I think it should be shared…not the same staff…I think it should be shared' 'it shouldn't be the same group all the time' When asked if they would like to get involved if they got the opportunity: 'well if I had the opportunity yeah. Everybody should take a turn in it shouldn't they' 'yeah because it's a fun time for staff to enjoy with residents isn't it, and if you're not getting the chance to go then you are left doing the tasks of the day and somebody else is having fun' 'and it breaks up your work routine doesn't it'	Highlights the need of for staff rotation
ST08 (CH02)	'I tend to choose the same staff because they don't mind doing it, but I need to encourage staff who are a little bit shy so that they can become used to it' 'because when you take staff from the home, it means there's less staff in-house, ok there's residents there too, but there's still staff working hard to keep the home going whilst there's a handful of residents having a bit more attention. So yes, so that the staff rotates and that they don't all get left under pressure and also to increase their confidence'	
ST09 (CH02)	'for everyone, not just one or two of us, but for everyone to attend'	It would be good for all staff to attend workshops
ST10 (CH03)	'I haven't so far, I haven't had the chance' (haven't had the opportunity?) 'hopefully different staff as well. Everybody to have a chance in their turn I thought'	When asked if she has been involved in the DementiaGo
ST11 (CH03)	'different staff went last time so that someone else got to see'	MM workshop

Transcripts	Best things about project (& sports day)	
ST01 (CH01)	'I really didn't think that they would actually do it, but it was fab! It was fantastic, you know it was a really good thing, even the ones (residents) that were a bit reluctant enjoyed themselves'	Sports day
ST02 (CH01)	'they loved it. some were talking about it for weeks after' 'it gives you a hub at work as well with them (residents) you know, because you involve them and have a laugh with them…they are involved with you then aren't they. It has been good for us (staff) as well you know'	Sports day Project
ST03 (CH01)	When asked if she thinks it's a waste of time: 'no, no not at all, no, no, no of course it's not…at the end of the day we all need stimulating don't we whether it's physical or mental, definitely'	Project
ST06 (CH02)	'it's nice to see them moving isn't it, instead of looking at them sitting there'	Project
ST07 (CH02)	'…them having fun really. They were enjoying it, especially when they were having a goal or something' 'they enjoyed it, it was a really good day out for them' 'it wasn't too much either…it pushed them a bit but that's good isn't it' 'I have learnt how much they can do'	Sports day
ST09 (CH02)	'Brilliant…**for everyone'**	Project
ST10 (CH03)	'it's good…I think it's working at the moment and I am happy enough with how it is'	Project
ST11 (CH03)	'I think just being together competing, they met new people, some saw other people they knew before coming into the home, and some of them were socialising with other people you know and	Sports day

	enjoying themselves...and other staff too, all staff mixed together…I know we were competitive with our own home, however, everybody supported each other and it was fun' 'they get to move don't they, move their bones, move their muscles and stuff…and taking part in something'	Best things about the project for residents - Residents get to move, get to take part in something, opportunity to talk to others
ST12 (CH03)	'I think seeing some of the other homes taking part in it…and seeing what they could do…everybody did really well…and see us come back with the trophy as well!' 'keep their (residents) independence and confidence up I would say, and that they get to mix with other people, prevents them from feeling lonely…everybody mixing together and doing with each other'	Sports day Project
ST13 (CH03)	'Just seeing them enjoying it. There was one lady here, I think she's in her 80's, kicking the ball to the goal…you know, it's nice to see them doing things like that isn't it, and wanting to do it and doing it, without us saying that they have to. You know, it was nice' 'I do think it's a good idea. It's great for them (residents), because there isn't anything else is there' Learnt: 'not to be so shy and to just join in with them…my confidence has grown, yes' 'it brings them together and they get to see other people. They become a part of the community as well actually, you know, they feel more normal I would say' 'they are not just old people are they, they are people'	Sports day Project
RES03 (CH01)	'last year it was really good that was and we all thoroughly enjoyed it…we really did…and of course we got medals! Which was even better *chuckles*'	Sports day All enjoyed it Medals
RES08 (CH02)	When staff member asked her if she remembered going to the sports day: 'yeah…we had a medal!' 'champion weren't it…I was like "weeeeei" *laughs*	Sports day Remembers medal Shows importance of having a medal Sports day Shows that she enjoyed
RES09 (CH03)	When asked how the sports day went: 'Very good. We won didn't we, we had the trophy didn't we, and we all had a medal each. I couldn't do a lot, but everything I could do I did' Asked how she felt there: 'o wrth fy modd' 'loved it' 'about ten of us went, and do you know what, some had done well…played football and everything'	Sports day Won Trophy Medal Residents enjoyment Perception that other residents did well
RES12 (CH03)	When asked how the sports day went: 'it went very well *smiles*' 'everybody pulled together quite well'	Sports day

	‘these girls, or women (residents) I should say…I didn’t think they could do as much as they did’ ‘…kicking the ball to get a goal, I never thought that they would do it to be honest with you’ ‘there was a trophy and a medal for everyone’ ‘we came first out of three or four other homes!’ when asked why he thinks it’s important for the sports day to continue and do stuff like the sports day: ‘it shows that the home *cries* thinks something of you’	Surprised with the women’s (residents) abilities Medal Trophy Proud Competitive? !!!
FAM02 (CH02)	When asked if she thinks the project (MM) is a good idea: ‘oh yes…yes, anything to keep them active and moving has to be a good thing for them really hasn’t it’	
FAM05 (CH03)	‘I would say it is a good idea because they sit there and don’t do anything but sleep most of the time’ When asked if she thinks the project should continue in the homes and if she thinks it is important that it continues: ‘I think it is, I think it is something for old people to do instead of sitting in their chair all day…if there are people there to help them do it then it is ok isn’t it, if the staff are available’	Opinion of MM project
FAM06 (CH03)	‘well her husband (resident’s husband= Iwan {changed name}) had been to it and he had a medal’ ‘he was over the moon’ When asked how he felt after the sports day: ‘on top of the world’ ‘praising, and that he had enjoyed himself and he was saying that he was the best one there *laughs*’ When asked for how long he talked about it: ‘for very long didn’t he Gaynor (changed name) Gaynor (sister of participant and the wife of Iwan) – ‘ooooo for hours, and I’ll tell you, he used to go right to the very end there and praised (to the other unit) that he had had a medal’ ‘he wanted to go again’ When asked if he remembered it weeks afterwards: ‘oh yes, the medal was with him when he was buried, they had put it (medal) around his neck’ ‘ooooh he was over the moon. His photo is up there. It had up uplifted him’ (‘oedd o wedi codi ei galon wyddoch chi’) When I said that the day has had an impact on all of them somehow: ‘yes, that he was so happy’ When asked what she thinks he enjoyed the most about the day: ‘Everything. Getting to go out and mix with other people was a big thing wasn’t it, instead of sitting in the same place’	Awareness of sports day Medal In the moment and beyond Iwan On top of the world Praised He was the best one there This links to proud too Talked about it for a very long time Wanted to go again !!!!!!!!! He was buried wearing his medal So happy
FAM07 (CH03)	‘she had enjoyed’	Sports day

	‘getting to see other people’ When asked how she knew how the sports day went: ‘because she was showing this medal every minute *laughs*, and her photo up in the front, she liked her picture being taken *laughs*. No seriously she was talking about it, I suppose because of the medal’ When asked if her mother continued to talk about the sports day for a while afterwards too: ‘Yes, she was talking about it every minute and if somebody came to see her, say now her great grandchildren would visit and that one of them had had a medal she would say “oh I have had a medal too” you know *laughs*, and I’m sure it is up her bedroom too’ ‘and in a way I see her like a child you know, having had something *laughs*’	 Medal Continued talking about it In the moment and beyond Medal Sees her Mum like a child after having received the medal
FAM08 (CH03)	‘Mum didn’t want to go but Dad went on the bus with some of the other residents to Caernarfon. Going to this DementiaGo was one of the best days that he had had, because he had won the shield and brought it back to Nefyn, and he got a medal…’ ‘…he meant the world of the medal. He meant the world of the medal and he was showing it to everyone, and one of the best things that he had ever done was having the medal and winning the shield to bring back, and he carried it whole way on the bus, and he showed it to everyone. He would wear the medal if there was anything going on…Christmas meal, or anything that was going on, the medal had to go around his neck. When my Dad died, he wanted the medal to go with him in the coffin’ When asked what he enjoyed most about the sports day: ‘winning the medal!’ ‘he said that he had to do this *moves arms from chest* and they were counting how much they had done, moving his hand forward wand backwards…he was the best! He was the best at the bowls too according to him! *chuckles* and he had won the triathlon. It really was one of the best things that he had done’ FAM08 keeps repeating that it was one of the best days he had had. 'on part of Dad, because Mum didn’t take part, but on part of Dad, he had been very pleased by going to the DementiaGo (sports day), and he was so so so proud of himself…that he had taken part, that he had got the medal, that they brought the shield back, and for whole time from September until January (he did in January), one of the most important thing that he had done was go to the DementiaGo (sports day). So I do think, yes, yes it had benefited him extremely’ ‘he had learned that he can still do something, he was still able at 97 (years old), that he was still able to win, and still able to bring something back into the home, and it was something that he could show…that he had taken part in something and that they had won, and that he had been a part of the home’s achievement…so yes, I think it had benefited him’	Sports day One of the best days that he had Highligths lack of understanding ? yet again associating demGo with sports day ‘going to this dementiaGo’ Medal Proud /sense of achievement Burried with his medal !!!!!!!!!!!!!!!! Winning the medal was the best thing about the sports day Shows importance of giving the residents a medal Best thing about DemGo Best thing about DemGo for her Dad

	‘I think it would benefit her, going somewhere…I think it would benefit her going out and mixing with other people…because Mum is quite private and reserved…you know…she doesn’t want to do it unless there is someone, like her sister or myself there with other, but I do think it would be nice for her to mix…mix with others on in the taxi, or on the bus, to Pwllheli and spend time in Pwllheli and come back, and I think it would make her think for, more mentally maybe?’ (motivate her to do more?) ‘come back and think about what happened and what they did, and maybe they could do exercises like lifting the arms up in the chair, it would benefit her, it would bring up topics for conversations somehow’	Perceived best thing for her Mum if she would attend the DemGo community classes

Transcripts	**Other things (that don’t fit in other tables)**	
ST01 (CH01)	‘we have a group of ladies who are the friends of the Hafod Mawddach, and we got them doing the pom-poms as well…’ ‘yes it was the community as well, yeah, family, community residents as well, staff…’	Community involvement – sports week Bringing everybody together
ST02 (CH01)	‘somebody from the leisure centre used to come in to do exercise with them (residents) you know, but that doesn’t happen now’	Somebody used to come in to do exercise
ST04 & ST05 (CH01)	‘…you’ve got to make it fun…not so much childish…’ When asked what activities they find childish: ‘I don’t think the scarves with them waving their arms like that’ ‘I found it quite…well…what’s the word…patronising I thought it was! Because men don’t wave scarves around do they’ ‘its swings and roundabouts, some people think you’re here to do that, and other people want to help’ ‘we’ve got a gentleman that really enjoys the garden and he makes full use of the garden, winter and summer’	Childish Patronising Resident perception of helping staff/doing their own cup of tea Garden
ST07 (CH02)	When asked what she thinks is the best thing that has come of out of DementiaGo: ‘just that they enjoyed it, it was a nice day out for them’ ‘when you practice for it (sports day) they do exercises more often then don’t they, but after the sports everybody forgets about it really’	Lack of understanding that movement needs to be encouraged/continued throughout the year. DementiaGo is about more than just the sports week Loss of momentum Perception that moving/practicing stops after sports day
ST08 (CH02)	‘everyone has their own different reason for not being able to move or for not being able to do something but there is a way no matter what…there is a way for everyone to do something’ ‘we had one lady, she pushed herself so much she went ill so we had to take her from there…but it was worth it. Having that hour/hour and half with her enjoying herself so much, it was well worth it’	There is a way to do everything Sports day. One resident pushed herself so much Worth it
ST10 (CH03)	‘Mary (changed name) has Parkinsons, but I have to say when she does something, she’s perfect’	Distraction?

		Perception that some get distracted and forget about their pain/conditions?
ST13 (CH03)	'with some that can't stand or something, they might feel like 'oh I don't want to do that', but there are other things…they can throw a ball can't they…there is something that they can all join in with' When I said that some people it was a bit patronising: 'no, no way, no I don't think so, genuine it was good' 'they are not just old people, they are people aren't they'	There is something everyone of any ability can join in with Not patronising they are not just old people
FAM01 (RES01 interivew) (CH01)	'an elderly lady used to come upstairs and do sitting down exercises, but she only came because she was visiting her husband here' The reisdents were: 'a bit reluctant but they did it…a bit reluctant but you (Jinnie) did it'	A family member used to visit husband and did seated exercises with residents by her own will Residents were reluctant at first
RES01 (CH01)	When asked what other activities they do in the home apart from boccia: 'they don't do anything'	Boccia seems to be the only PA they do in the home
RES02 (CH01)	When asked if she helps with laying the table or gardening: 'no…no…well none of us do any gardening…one lady seems to enjoy doing it…one of the staff…there's not a lot to do there anyway apart from the pots, which she (Staff) is in charge of really' '…most people here…they don't do anything at all…they don't do books…they just watch television all day' '…I can't get over the fact why don't they want to do something…or even read…or…or…I don't understand' Doesn't take part it in boccia: 'I think I don't take part because it wouldn't challenge me enough would it…it here' 'it would just be some way of passing the time…and I've got other things I'r rather do' 'I'm not particular interested in simple things they do here in activities, because I wouldn't get any satisfaction out of that…' '…I'd rather be out walking or sitting on the bench on the prom…even sitting on the bench you see people pass'	Gardening Residents leave the gardening for one staff member because she enjoys it. It should be everyone's job! Resident perception that most residents don't do anything just watch TV Perception that boccia wouldn't challenge her enough Refers to activities as 'simple' No satisfaction Would rather being outside watching people pass
RES03 (CH01)	'I don't do anything in the garden but I like to go out and see what is going on in the garden' 'we have a lot of fun with that' (boccia) 'www yeah I do enjoy it without a doubt yeah. When I look at some of the others (residents) and I just think "what the heck are you doing? You're not doing anything. You need to do something". But it's not up to me to do that' 'I often say… "I'm going into town…does anybody want to come?"	Garden Facilitator Boccia Fun Enjoys PA Resident realises/perception that some of the other residents are not doing anything Resident tries to encourage other residents

RES04 (CH01)	'I don't know what's going on in the main lounge, they are doing something at the moment... I think it is something rather recent…they are playing bowls (boccia)…there are some much younger than me (She is 95 years old) and more active playing'	Boccia going on in the main lounge…perception that it is something new and has only just started…practicing for the boccia tournament?
RES08 (CH02)	When asked if she played boccia with another home in the home: Staff replied: 'with another home from Bangor, here…they came here on Monday, do you remember?' Resident: 'oh did they? I didn't know!' Staff: 'she can't remember'	Dementia Resident did take part in the boccia with the other home but doesn't remember
RES09 (CH03)	'we did the ten pin bowling last week' (skittles) 'we had fun by throwing this ball to each other and stuff, we have fun with that and laugh there...and have fun…we do have fun' 'it's up on the door saying what is going on…so if we forget it is up on the door showing what's going on' When asked if they do activities like the skittles often: 'I would live more of that to tell you the truth, yes, because it benefits you, even though these arms are hurting, it benefits you after' 'maybe there needs to be a little bit more (Physical activities)…because there are some days where maybe we don't do anything'	Shows that they do activities using the equipment provided by DemGo Skittles Residents' enjoyment Fun doing activities in the home Staff put posters up with upcoming activities Would like to do more skittles. Even though it hurts her arms, she perceived that it benefits her after Perception that the home maybe needs to do more physical activities
RES10 (CH03)	When asked what she enjoyed the most about DementiaGo's community class that she had attended on the same morning: 'hmm everything, I can't remember, I forget things'	Dementia? Forgot what she enjoyed about DemGo class that she attended in the morning (the same day) Resident perception that she forgets things
RES11 (CH03)	'when are we coming next week, Wednesday again yes?'	DemGo community class Looking forward? Thinking about next time already…suggests that she enjoyed it?
RES12 (CH03)	When asked if he thinks he moves enough during the day: 'I would like to be able to do more. I would walk right to the end but it's hard to come back then' When asked if he would like if the staff walked with him more often: 'Yes but they have other people apart from me haven't they'	Would like to be able to move more during the day Would like to move more with the staff but realises that there are other residents there not just him
FAM01 (CH01)	'they move it (table) out the way and therefore have to move Mum out of the way because she only went in that room on the understanding that she could sit in the window because her sight is so bad' When I asked where to they move the chair to: 'mum just has to go to her room' 'I feel sometimes it's a bit undermining. Hmm, there's dementia and there's old age and the two are completely different'	When doing activities, like boccia, they have to move her Mother from where she usually sits (her Mum sits by the window on the lino where boccia is done) Why her room? Why does she not join in? opinion of DemGo a lack of understanding of DemGo and the project? This project is about getting residents moving, dementia or not.

	'…wrong name. because as far as I'm aware, Mum hasn't got dementia. She's old yes…but that is completely different (Her Mum in the background- "I am a bit forgetful") yeah but that doesn't mean you have dementia' 'it's a bit demeaning I think…old people don't' want that' 'the thing that she did enjoy was the tambourine…but then again it's music' 'I don't think throwing balls around is quite for 93 year olds. Sometimes they just want to be left in peace' 'I understand where you're coming from and that you want physical movement but it's not always the right thing'	Negative family perception of DemGo? This could possibly fit in 'best thing about project/sports day if I changed the name to 'opinions of…' instead of 'best thing about..' Boccia Negative family perception of DemGo?
FAM02 (CH02)	'…I think now because she has fallen so many times, I think she associates moving with falling' 'like everywhere else…it would be great if there was 1-to-1 with them to help them moving all of the time' 'there are constant posters and stuff up on the front door there so we can see if there is something' When asked if she would like to take part with her auntie in an activity/event in the future: 'yes, yes I would come…and my niece…she (resident) would jump out of her seat to do it with her (niece) I'm sure! I also think that they (residents) maybe feel safer as well doing something with somebody they know'	Perception that resident associates moving with falling 1-to-1 would be good to help residents moving all of the time Families are aware of what's activities happening in the home Possible benefit of family involvement in activities/events
FAM03 (CH02)	'and sometimes she says that she doesn't want to do anything too childish, she says that about things sometimes' When asked for an example of a childish activity: 'she said something about playing with them balls' When asked if they (families) would like to be involved in activities C: 'it's a job me because I'm in a business…I can't commit. We commit to come here twice a week anyway' C: 'I try and drag her out there (to activities_ and I say every time I'm here, 'Dilys (changed name) you should get up from that chair at least ten times a day, and move' 'like a rule, and I feel that maybe the staff should do that with all of them as well yeah…"move"' 'do you know like a fitbit bracelet…I wonder if there's anything maybe for a tenner (£10) like a reminder bracelet, so for example we will say that it would remind them to get up and sit down every half an hour…it would be like a small reminder for them' 'they need a purpose to move from there (chair)' C: 'if every single one of them got up (from chairs) 10 times a day, that would help them then to get up from the chair quicker wouldn't it, because they are used to doing it 10 times…that is then less stress on the staff…they have moved…these things are basic isn't it...this is basics isn't it' '…and then some can advance more than that…for example holding on 2 tin of beans and so stuff in the chair'	Childish activities Family involvement Hub from family to move more Get up from chair at least 10 times a day Positive family perception of moving Rule This can link to suggestion Reminder to move bracelet Residents need a reason/purpose to move Suggestion Everyone to move 10 times a day Less stress on staff because residents are used to moving then

FAM04 (CH02)	‘this is the picture that people have you see, that they (residents) are there (in the home) to sleep their time away, unfortunately’ ‘staffing are the homes’ biggest problem I think. You know…there is a real gap for volunteers to come in and help get the residents moving…there is a need…well they (residents) need nearly 1-to-1 don’t they to go around and stuff’ ‘I believe that they put a fair effort in with the equipment that they have, yes I do believe that’ ‘there are certainly some (residents) here that can do much more than sitting in the room (lounge) napping from morning until night’ (pendwmpian cysgu o bora tan nos)	Perception that others have of residents There is a need for volunteers to come in and help residents moving… perception that staff is an issue..no time? Need help to get residents moving? Believes that staff put in a fair effort with the equipment available for PA
FAM08 (CH03)	‘if you would do something too early in the morning, I think that they need time to come to themselves (dod at eu hunain) after getting up and having breakfast and stuff like that….maybe they are tired then by the afternoon, after lunch you don’t want to move as much do you, so I don’t know…around 10:30am or something like that?’ ‘some of the ladies (residents) don’t know who are in the other units because they don’t move, they don’t go around to look, they don’t mix with others unless they do bingo or something like that’ ‘I think it’s important for them to know who else is here isn’t it because this is their home in a way isn’t it, they sleep under the same room. The people living here are their family in a way aren’t they’ ‘it brings everyone together’ ‘increase her confidence and meet different people. Go out for a ride to Pwllheli, see someone different and see somewhere different. It is important I think because she sometimes says “oh no I don’t want to do that”, but I think that maybe she just thinks that it is easier for her to sit and not move, and that she goes into a rut of not doing’ ‘Dad was one for moaning that there was a pain there, a different pain somewhere else, he was one for moaning I have to say that, he used to moan that there was something different wrong with him nearly every day, but when he went to this DementiaGo, the pain and the moaning…well there was no mention of anywhere hurting, he didn’t say that anything was wrong, and he had done all of the things, and he was showing after he got back what he had been doing and showed the exercises and some ball and stuff *chuckles*. And he was the best at doing everything! It was him that had won everything!*laughs*’ ‘…even though he was 97 (years old) he knew everything, he didn’t forget anything’ ‘it is as if you appreciate the families somehow. I think there was an offer to go last time (to the sports day), but I couldn’t…’ ‘…say it was on a day where I could come, I would come…for Mum’s sake more than anything, she would be happier to take part because I would be here to help and do it with her’	Best time to do physical activities Not too early Not after lunch 10:30am best time? Residents tend to stay in their units and don’t mix with others from other units (I have a reflection from Boccia 26/6/19 to support this) Perception that it is important for residents to see who else is there (in the other units) Activities bring everyone together Daughter perception that her Mum would benefit from DemGo community class Some go to a rut/habit of not moving No moaning Distraction !!! Suggests that age isn’t a barrier! 97 years old Iwan

	‘she (Mum) likes company and likes having someone to go with her to places if there is anything’ When asked if she thinks that physical activity effects quality of life: ‘yes I think, yes, it must be. It definitely did with Dad, because he had enjoyed it so much you know, he moaned usually, but yet again he could do everything…he was the best at everything. So I think, if you are not going to do something you are going to think “oh I have pain here” or “I am unwell today” ‘when you are in a home, maybe you need motivation to do something, it is easy to sit and just get up to eat and then go back to sit isn’t it, so yes, hopefully Mum will come’ When asked if she had anything else she wanted to say: ‘no apart from thank you. Thank you very much for what you did for Dad somehow…hi really, really enjoyed, so, so much, and just hope that Mum will come and see what is going on and maybe that will give her a hub to take part in more physical activities.’	Positive perception of involving families Her Mum more like to participate if family was taking part too Distraction

Appendix N: Workshop Content- 'Why Don't We Go Into The Garden?'

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"Why don't we go into the garden?"

WORKSHOP AIMS & OUTCOMES

We describe below the aims and outcomes for the half day workshop for care staff to explore the reasons why their outside spaces are not being used to their full potential

The Key Workshop Aim is:
To increase confidence and interest in using the existing outside spaces in the participants' work settings in order to engage residents regularly and meaningfully in their gardens.

The other Workshop Aims are:

1. To present a summary of the garden designers' research journey to find the answer to their original question, *"Why aren't care home gardens used more?"*
2. To explore the role and influence of the care home's cultural practice (including Health and Safety) in aiding or inhibiting more active and meaningful engagement with the outside space.
3. To investigate the ***Top Ten Key Findings*** from the research for the Care Sector.
4. To introduce the new diagnostic tool, ***The Map***, and show how this aims to help care homes identify their current and anticipated needs for their outside spaces and then to achieve value for money in their involvement with a garden designer or outside specialist.
5. To provide a handy and easy-to-use ***Checklist*** that aims to reduce gimmicks in the garden, infantilising approaches with residents and the risk of turning the outside space into a fixed and unadaptable space.
6. To review the relationship between garden designers (and other outside specialists) and care home staff to ensure they deliver what you need and what you will use.

The Workshop Outcomes (based on the Aims above) are:

1. To understand the key reasons why care home gardens are not used more actively.
2. To appreciate the role and influence of care culture in influencing access to, and meaningful engagement with, the outside space.
3. To reflect critically on the Top Ten findings and their applicability to the participant's own care setting and workplace.
4. To encourage higher engagement and interaction levels with residents and staff in the outside spaces they currently have.
5. To explore the new diagnostic tool, The Map, and understand what it can do.
6. To appreciate the role and appropriateness of features in the outside space through an understanding of the Checklist tool.
7. To reflect critically on when and how to engage the services of an outside specialist (including garden designers)
8. To increase confidence in engaging residents with the outside space.
9. To spend resources on the outside space cost effectively and in line with the current care culture practices of the home.

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The Workshop is for care home staff at all levels who:

- ✓ want to engage their patients / residents more meaningfully with the outside space
- ✓ want to understand why their garden may not be used as much as may be expected
- ✓ are tasked with revitalising and upgrading the outside space within a tight budget
- ✓ engage with architects or designers to improve the outside space
- ✓ are keen to understand latest good practice in creating actively used outside spaces.

Target Audience:
This session will appeal to care sector staff at all levels, including carers, nurses, activity co-ordinators, managers, owners and strategic leaders, Board members and operators with responsibility for developing their outside spaces and encouraging their residents to use their outside space more actively and meaningfully.

What will be provided:
A Certificate of Attendance, A Handout summarising the Top Ten Key Findings for the Care Sector (as published in NAPA *Living Life* magazine, Autumn 2014), a copy of the Checklist and information about the garden designers' services through their organisation, step change design ltd.

While this half day course may touch on specific elements and aspects of current design guidance for dementia, it will primarily focus on the findings from the major research study carried out by the garden designers. An article on the research findings was published in the Journal for Dementia Care, March 2015 and the Australian Journal for Dementia Care in June 2015.

About the Workshop Leaders
Debbie Carroll and Mark Rendell are garden designers at Step Change Design Ltd. They have more than 20 years of professional garden design and horticultural experience between them, with particular expertise in designing spaces for health and social care settings. In 2013 they designed and self-funded a large-scale research project with the participation of 17 care homes across England and Wales into why gardens in care settings, particularly for residents living with dementia, are not more actively used, even when they follow the latest design guidance.

They went on to identify the pivotal role of care home culture in engagement levels with the outside space and then produced an innovative and interactive diagnostic tool for the care sector, called *The Map*, from their comprehensive and ground-breaking research findings.

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