



**East Midlands Research into Ageing Network (EMRAN) Discussion Paper Series**

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**Care Home Research in the East Midlands**

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East Midlands Research into Ageing Network (EMRAN) is a research collaboration across the East Midlands to facilitate collaborative applied clinical research into ageing and the care of older people. EMRAN was set up with support from NIHR CLAHRC East Midlands.

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## INTRODUCTION

The National Institute for Health Research (NIHR) has made research into care homes a priority area. Several care home projects are funded by the NIHR funded 'Collaboration for Leadership in Applied Health Research and Care' (CLAHRC) organisations, of which there are 13 across the country. To inform future development of future research in to care homes across the country, representatives from each CLAHRC were asked to produce a summary of CLAHRC funded care home research being conducted in their area as part of a scoping exercise. Researchers in the CLAHRC East Midlands region (which consists of Derbyshire, Leicestershire, Lincolnshire, Northamptonshire, Nottinghamshire and Rutland) were contacted asking for information about care home projects they were leading or were included in. Previous EMRAN research brochures were also consulted.

This exercise yielded three CLAHRC funded projects which were included in the *CLAHRC Care Home Research: National Work Stream* document for discussion at the 'Cross-CLAHRC Care Homes Research Event' on the 23rd November 2017. Several past, present and future non-CLAHRC funded care home research projects in the region were also identified. This document is a collection of these projects (separated in to CLAHRC funded and non-CLAHRC funded projects). We would like to thank all those who contributed to this document and hope you enjoy learning about the array of care home based projects being conducted in the East Midlands.

## CARE HOME RESEARCH IN THE EAST MIDLANDS – CLAHRC FUNDED

### Rehabilitation for Outdoor Activities and Mobility in care homes (ROAM Study)

#### Brief Description

Using a realist, mixed methods approach, this PhD study aimed to identify what helps and/or gets in the way of residents accessing and engaging in outdoor activities and mobility in the care home outdoor space, with a view to identifying practices and resources that increase residents' outdoor activity.

Care home residents should be supported to participate in meaningful activities in their preferred places, including outdoor spaces. Although going outdoors is believed to be beneficial, the majority of residents stay indoors. This study investigated the enablers of and barriers to residents' use of gardens, aiming to provide guidance for care homes.

Using a realist approach, a mixed-methods study was conducted in 3 East Midlands care homes. 50 residents and 36 care workers participated in 82 hours of observations. Data were collected using Dementia Care Mapping, field notes, focus groups and questionnaires. Analysis is in progress in 2018. Questionnaire responses are analysed with descriptive statistics, qualitative data are undergoing a realist analysis to establish the causal patterns for residents' garden use, and the findings will be synthesised using a triangulation protocol.

Preliminary analysis shows that 84% of residents were considered to need supervision/assistance to access the garden area and 68% with outdoor mobility. During the observations, 62% of residents did not access the garden at all. There were no outdoor-specific activities observed. Residents were more likely to get outside if an activity coordinator was present and the weather was warm.

Residents are highly dependent on care workers to get outside, however, workers may lack the leadership, knowledge and motivation to overcome the barriers to meaningful garden use. Occupational therapists are well-placed to support care homes in this endeavour.

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Academic Supervisors -Dr Neil Chadborn, Associate Professor Adam Gordon, Professor John Gladman and Professor Pip Logan

## Chair Based Exercise

### Brief Description

This 4 year programme of work was completed in early 2017. It comprised a CLAHRC-funded PhD (PhD awarded to Katie Robinson in early 2017) and a Research for Patient Benefit feasibility study of a chair based exercise programme, PI Professor Tahir Masud. Both were based in Nottingham.

Not all of the research took place in care homes, as this form of exercise is also delivered in day centres. The overall programme comprised two literature reviews, the development of a consensus definition of chair based exercise, the development of an evidence based chair based exercise programme, a proof of concept study of the programme, and a feasibility study in preparation for a RCT.

The overall findings at present are that it is unlikely that a chair based exercise intervention can be delivered at sufficient intensity and duration to care home residents to warrant a large scale RCT.

### Contact details:

Dr Katie Robinson [Katherine.Robinson@nottingham.ac.uk](mailto:Katherine.Robinson@nottingham.ac.uk) and Professor Tahir Masud [Tahir.masud@nuh.nhs.uk](mailto:Tahir.masud@nuh.nhs.uk)

## Northamptonshire Care Homes Improvement Programme

### Brief Description

Care homes are the largest provider of long-term health and social care for older people in the UK. There are around 378,000 registered care home places in England and over 18,000 care homes are registered with the CQC. The 2011/2012 Adult Social Care Survey for England revealed that, although the basic physical needs of residents are addressed well in care homes, higher-level psychological and emotional needs are often not adequately met. Failure to meet these psychological and emotional needs is

associated with perceived poor quality of life of residents and dissatisfaction with the care they receive.

The aim of this study was to evaluate the extent to which the toolkit, the 'Care Homes Programme', facilitates a positive organisational and cultural change in practice in care homes. Objectives include: to evaluate the impacts of the toolkit on the quality of life among residents in care homes; to evaluate the impacts of the toolkit on working experience among care home staff, and to explore the feasibility of the implementation of the toolkit into care home practice.

The methods were pre- and post- intervention surveys to assess the quality of life of residents and staff satisfaction with their roles. Observation of the implementation of the intervention, document analysis and interviews with residents and staff were undertaken to better understand the process of change and factors that might enable or impede the impact on outcomes

Seven care homes were involved, with one small care home choosing to withdraw following the introductory workshop. 87 residents and 217 staff members participated in baseline surveys. 96 residents participated in a follow up of survey which 85 also participated at baseline. 250 staff participated in the follow up survey which 200 also participated at baseline. 20 interviews were conducted with residents and 30 with staff for the purpose of exploring the implantation process.

Residents' essential physical needs were well met in the 8 participating care homes, but residents' emotional and psychological needs were not fully addressed in a significant minority. There was no difference in the quality of life between male and female residents, nor among residents who had lived in current care homes for different time periods. Between baseline and follow up the proportion of residents reporting they got help with the way they spend their time increased, but the proportion reporting they got help and support in personal care decreased, the overall perception of quality of life worsened and specifically, the quality of life relating to food and drink worsened.

We found that the vast majority of care home staff were satisfied with the quality of care they provided and felt that their roles made a difference to residents. There were no significant differences in working patterns before and after the intervention. The analysis of the baseline data defined nine 'Key Findings' (KFs), which related to the responses of staff to the following areas: Team Work, Engagement, Quality of Job Design, Competence, Improvement, Work Pressure, Job Satisfaction, Support from Immediate Managers, and Support from Senior Managers. There were no significant changes from

baseline to follow-up for any of these measures. There were indications that the support given by the immediate manager, the immediate manager's encouragement to work as a team and their help with a difficult task at work had worsened between baseline and follow up.

This qualitative inquiry highlighted three organisational factors: management style, teamwork, and work conditions that had significant impacts on the implementation process. Another situational factor, the size of the care homes, also had profound impacts. Two care homes had a flat and supportive management style. In addition, these two care homes were much smaller than many other participating care homes. Smaller size and flat management style helped to build effective communication and teamwork. Effective communication and good teamwork, in turn, helped staff better organise their work, more effectively use their time, and give more support to colleagues. All these contributed to a cohesive organisational culture. Some care homes had a strong hierarchical management structure. Lack of the voice of carers, lack of opportunities to use initiative, and lack of effective communication and teamwork were the challenges faced by both carers and care home managers in these environments which also tended to correspond to larger care homes.

We concluded that although there is a need to move away from rigid care to a more flexible care system driven by resident needs has been advocated for years, poor quality of care in care homes has been evident in national and local reports. By implementing a quality improvement toolkit, Care Home Programme, in seven care homes in Northamptonshire, we propose a positive organisational and cultural change in practice in care homes will be facilitated. In addition, on account of the way in which the five principles of Lean methodology have been applied in the development of the toolkit, this will be the first study of its kind to examine the feasibility of using Lean in improvement of services in the care home environment. Although we observed engagement and positive changes around specific projects were not able to demonstrate broader positive impacts on the experience of residents or staff in care homes. Lessons learned are presented and the implications for the implementation of similar programmes in the future are considered.

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## CARE HOME RESEARCH IN THE EAST MIDLANDS – NON-CLAHRC-FUNDED

### Proactive Healthcare in Care Homes (PEACH) Study

#### Brief Description

This is a 30 month project funded by the Dunhill Medical Trust. Proactive Healthcare in Care Homes (PEACH) aims to evaluate Quality Improvement Collaborative methodology as a means of supporting UK-based health and social care economies to implement Comprehensive Geriatric Assessment (CGA) in the care home sector.

The starting point is that care home residents have high levels of dependency and complex care needs that are not adequately or consistently met by current arrangements in place under the general medical services contract. They resemble, in terms of their medical problems, multi-morbidity and levels of dependency, other populations where CGA has been shown to work. But CGA is a complex intervention which is challenging to implement in a sector defined by fragmentation and uncertain boundaries between health and social care commissioners and providers.

PEACH started in September 2016 working with Quality Improvement Collaboratives across four Clinical Commissioning Group (CCG) areas in the East Midlands to implement CGA and to understand whether and how these might work to improve frontline health care delivery to care home residents. The work will conclude in May 2018.

Key deliverables will be:

- A realist review of the role of CGA in long-term care settings in the UK and internationally – establishing how this works to improve healthcare outcomes, for whom it works and under what circumstances.
- A realist evaluation of Quality Improvement Collaboratives working at the interface between health and social care to deliver healthcare improvements for care home residents.
- Cohort data from circa 240 care home residents across 24 care homes across 2 CCGs, enabling effective description of baseline health and functional status and how the collaboratives impact upon quality of life and resident and staff

satisfaction with healthcare. This will be supported by data on NHS resource use (particularly acute hospital admissions, length of stay and readmissions) of care home residents within the cohort, over time.

- A new algorithm to identify, with greater accuracy, care home residents using hospital PAS databases.
- A care home dashboard, delivering care home data in real time to commissioners and providers, driven by the above algorithms and datasets.

Contact details

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## **A multi-centre cluster randomised controlled trial to evaluate the Guide to Action Care Home fall prevention programme in care homes for older people (FinCH)**

### Brief Description

This study is NIHR HTA funded. Falls in care home residents are at five times more frequent than in adults in other community settings. One in ten care home residents who fall sustain a fracture, often with serious implications for the individual, NHS and Social Care. Community fall prevention interventions can reduce falls by 30% however, evidence that falls are reduced in care homes remain inconclusive. Trials in care homes have particular challenges which are important to overcome to perform research applicable to the 405,000 patients who are UK care home residents.

The aim is to determine the clinical and cost effectiveness of an evidence based Guide to Action Care Homes (GtACH) process for falls prevention in care homes (intervention) compared to usual care (control).

1308 residents from 66 UK care homes are being recruited with randomisation to intervention or control at care home level. The intervention is the GtACH systematic process delivered by trained and supported care home staff. It was developed by care home and NHS staff, based on NICE clinical guidelines. The control conditions reflect usual care home practice. The primary outcome is rate of falls at 3 to 6 months post randomisation. Secondary outcomes include falls rates at 6-9 and 9-12 months; injuries;

death; physical activity; activities of daily living ability; quality of life and use of services. A concurrent process evaluation is included.

#### Contact details

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## **The Effect of Advance Care Planning on Health Service Utilisation of Care Home Residents**

#### Brief Description

This is a self-funded PhD study. Dr Gillian Garden, a psychiatrist from Lincolnshire, who had previously set up and evaluated an advance care planning service in Boston, Lincolnshire, and is now evaluating an extension of this service in Lincoln. The PhD study began in 2016.

The key intervention is a service which she leads, in which there is comprehensive geriatric assessment to optimise health, alongside advance care planning. The main outcomes of interest are whether the resident dies in their preferred place of care, and resource use (mainly hospital admissions).

#### Contact details

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## **LPZ and UK care homes (LaUnCH) study**

#### Brief Description

This is a 3 year study funded by the East Midlands Academic Health Sciences Network Patient Safety Collaborative. The LPZ and UK care homes (LaUnCH) study is based around a quality improvement programme working with the care home sector across the East Midlands to implement the Landelijke Prevalentiemeting Zorgkwaliteit International (LPZ-i). This is an international tool (Netherlands, Switzerland, Austria, Turkey, New Zealand) designed to count and benchmark the prevalence of long-term care problems in

Nursing Homes, and also to describe and count the measures used by Nursing Homes to respond to manage and prevent these problems, as a way of benchmarking quality of care within and between care home providers. When used in these other countries the tool has formed a basis of quality improvement discussions within the long-term care sector and helped to drive up standards.

We used the tool for the first time in the UK in 2015, when 26 care homes and 489 residents implemented the LPZ-i modules for incontinence and pressure ulcers. 60 pressure ulcers were reported in 41 (8.4%) of residents. 325 (66%) of residents were incontinent of urine, faeces or both. It was demonstrated that it was possible to use prevalence data to benchmark care between UK care homes and against homes overseas. 38 participants took part in focus groups and interviews which revealed the importance of existing relational working with care homes as a basis for implementation. Care homes reported improved identification and management of pressure ulcers and incontinence in response to the audit. However, care home staff could not interpret or analyse data from the audit or use it to drive quality improvement.

In 2016, 30 care homes and 511 residents took part in the full range of audit modules (adding nutrition, falls, pain and restraint to modules already piloted in 2016) many returning from year 1. We have used these results as the basis of quality improvement workshops during 2017 and are in the process of collating data on the extent to which these have facilitated (or not) more constructive responses to data, by supporting care home staff to interpret their results.

The LPZ ran again in November 2017, with a researcher in residence employed to conduct direct observation of the tool in use and to view subsequent discussions amongst care homes staff and healthcare providers to make sense of and interpret the emergent data. At the same time, Health Economists within the East Midlands Academic Health Sciences Network are working to establish implementation costs for the LPZ-i within the UK and to establish a cost-benefit model and business case that may support implementation more widely.

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## Optimal

### Brief Description

The Optimal study was funded by the NIHR HS&DR programme, and was completed in early 2017. The study team was led by researchers from the University of Hertfordshire, but also involved teams from Nottingham, University College and Kings College London and Surrey University.

Phase 1 was a realist analysis of models of organisation of health care for care home residents. This generated “programme theories” which were tested in Phase 2, which was a realist evaluation. This evaluation included longitudinal case studies in 12 care homes across three UK regions, each of which operated within different contexts and used different mechanisms to deliver healthcare to care home residents: one had developed care home specific services, one had incentive GPs to provide additional services over and above the usual GP contract, and one had focussed on empowering care home managers as advocates of residents.

The study found that health care models, which are likely to vary in form from place to place and from time to time, are effective where they are jointly developed between the health and care home sectors, where the interventions have a specific and designated responsibility for care home residents, and where there is the development of expertise related to dementia care.

### Contact details (Nottingham site)

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## Registered Nurse Competencies in UK Care Homes.

### Brief Description

This study was funded by health Education East Midlands (HEEM). Recruiting and retaining high quality nursing staff in the UK long-term care sector, particularly care homes, has been recognised as a challenge. The reasons for this are complex and relate, in part, to issues around pay and job security but other possible contributors are perceived lack of prestige and limited opportunities for continuing professional development in care home nursing. There is no recognised curriculum for care home

nursing in the UK – this is a finding in common with many other areas of nursing which focus on care of older people.

Against this background we set out to describe core competencies for registered nurses (RNs) working in UK care homes. To do this, we conducted a systematic literature review and stakeholder focus groups to provide an initial list of competencies. The competency list was then modified using a Delphi process with a multidisciplinary expert panel of 28 members. At the end of three rounds, 22 competencies were agreed as essential for RNs working in care homes. A further 10 competencies did not reach consensus.

The initial phase of work is now complete and has, already, been used as the basis for a new Masters Programme at De Montfort University (DMU), Leicester. We did, however identify a tension through the Delphi process between the need to establish a “basic” skill-set, which all care home nurses should have early in their careers, as a way of supporting benchmarking of training standards across the sector, or whether it was more important to establish an “aspirational” skillset, which included advanced clinical, managerial and leadership skills, as a way to drive forward improvement and open up opportunities for RNs in care homes. We are currently seeking funding to return to this question using Nominal Group Technique as a way of addressing some of the methodological challenges evident in the earlier Delphi process.

#### Contact details

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### **Understanding Care Homes Safety: Safety Culture and Sense-making in Non-mainstream Care Settings (CHOCS)**

#### Brief Description

This is a PhD study funded by the East Midlands Patient Safety Collaborative and the Economic and Social Research Council. The study is a qualitative ethnographic exploration of safety culture in care homes. The study is looking at how residents, relatives and care home staff make sense of, seek to learn about and promote safety. Using observation and interviews the study will also look at how the responsibility of ‘at risk’ residents is negotiated.

#### Contact details

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## **Optimal Management of Vitamin D Deficiency in Older People Living in Care Homes**

### Brief Description

This study is conducted as part of an NIHR Academic Clinical Fellowship (ACF) programme. Population prevalence studies show that 78-95% of UK care home residents are vitamin D deficient as a consequence poor sunlight exposure and dietary deficiency

Current guidance recommends that anyone who is at risk of vitamin D deficiency, including care home residents, should take a daily supplement. Treating vitamin D deficiency may improve muscle strength, resulting in improved functional independence, a reduction in falls and falls-related injuries.

Research has established that the best level of vitamin D should be around 70nmols/l. We know from previous research that the best way to get vitamin D to this level to use a loading dose, followed by a maintenance dose. We are yet to establish the best approach to loading with vitamin D. The purpose of this research project is to compare two vitamin D loading regimens which have previously been tested in healthier and more mobile older adults, but never compared in care home residents.

The study will randomise care home residents to receive either: a tailored dose of vitamin D, calculated according to individual bodyweight and serum vitamin D levels or; a standard dose based upon current recommendations from the National Osteoporosis Society. The hypothesis is that those receiving tailored doses will absorb and use vitamin D more effectively within their bodies and therefore experience better clinical outcomes.

This early feasibility RCT will test the feasibility of an individual RCT of vitamin D supplementation in the care home setting and establish the outcome measures for a definitive RCT, for which an NIHR doctoral training fellowship will be sought.

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## **Optimising hearing-Related Communication for care Home Residents with Dementia (ORCHARD): A realist synthesis.**

### Brief Description

This is a 15 month study funded by NIHR Research for Patient Benefit. Both hearing impairment and dementia are common in care homes. Hearing impairment occurs in 70-90% of residents, and dementia in about 75%. With around 300,000 people in care homes likely to have dementia and hearing loss. These two conditions present formidable barriers to communication.

Care homes are often noisy environments, making communication harder for individuals with poor hearing. Although hearing aids are often provided, problems can arise when the resident is unable to tolerate the aid or understand its purpose. These issues can result in the breakage or loss of the aids. Added to these problems, staff often lack training and skills to maintain the correct operation of the aids. For residents with hearing loss and dementia, these issues can lead to isolation from the care home community. They may experience agitation and lose opportunities to conveying personal choice, effecting their quality of life. The ORCHARD study aims to:

- Describe how problems in hearing-related communication are managed in care homes.
- Understand what contributes to the good management of hearing-related communication for people with dementia
- Suggest interventions to improve practice and recommendations for implementation

We will use realist synthesis techniques to address the questions of what works, how, why, to what extent, for whom and in what circumstances, to manage hearing loss in people with dementia in care homes. Through the synthesis process, we will capture contexts, mechanisms, and outcomes (CMOs) within existing primary research and grey literature. We will build upon the findings, in collaboration with experts, to define

guidelines and interventions that optimise hearing communication for residents with dementia in care homes.

#### Contact details

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### **Understanding hospital admissions from care homes**

#### Brief Description

This is a qualitative research project (PhD studentship) to understand the influences on decision-making and develop a 'model of escalation of treatment'. The main application will be to understand how alternatives to hospital admission can be configured to better serve the needs of care home residents who experience a deterioration in their health.

#### Contact details

Chris Williams [cdw4@le.ac.uk](mailto:cdw4@le.ac.uk)

### **Delivery of training and professional development in care homes**

#### Brief Description

In this study a literature review and focus groups and interviews with care home professionals will be undertaken to understand their needs, preferences and ideas about training and professional development.

#### Contact details

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### **Long-Term Use of Motion-Based Video Games in Care Home Settings**

#### Brief Description

Motion-based video games have the potential to provide both mental and physical stimulation for older adults in residential care. However, little research has explored the

practical challenges and opportunities that arise from integrating these games within existing schedules of activities in these contexts. In our work, we report on a qualitative enquiry that was conducted over a three month period at two long-term care facilities. Findings suggest that older adults enjoyed playing video games, and that games can be a valuable means of reintroducing challenge in late life, but that the impact of age related changes and impairment can influence people's ability to engage with games in a group setting. We outline core challenges in the design for care context and discuss implications of our work regarding the suitability of games as a self-directed leisure activity.

#### Contact details

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## Evaluating Imagine Arts

### Brief Description

In England, the Arts Council and the Baring Foundation funded four national programmes, with the theme of Arts and Older People in Care. One of the programmes, Imagine Arts, is managed in collaboration between the Abbeyfield Society, a national care home provider, City Arts Nottingham and Nottingham City Council as well as local arts providers. It is a three year project with the aim of enriching the lives of older people in care settings, such as residential homes and day care centres, through the provision of an innovative programme of arts.

Residents in 17 care homes, many of whom living with dementia, were exposed to a diverse programme of arts interventions. The programme aimed to challenge, engage, stimulate and enable older people in care to access rich cultural offers. Local arts practitioners and arts venues who in response to an invitation from the programme offered a range of workshops tailored to care home residents.

The evaluation explored the impact of Imagine Arts on care home managers, activity coordinators and care personnel as well as arts practitioners and older people who attended the activities. Evaluation methods included qualitative interviews with stakeholders; observations of creative art sessions using Dementia Care Mapping; case

studies of individual art forms and a Social Return on Investment to demonstrate the wider impact of investment.

Findings from a baseline study examined the existing provision of arts-related activity within residential care settings, including the way they are perceived and facilitated. Analysis of the social and economic benefit of Imagine Arts demonstrates that the programme represents a good social return on investment and a justifiable use of resources. Nevertheless, there were challenges in persuading residential staff and management of the benefits of integrating arts experiences as part of their everyday care and support.

Outcomes from the evaluation have the potential to be used to inform and roll out the project to national care providers. The purpose of the study is summative, to inform best practice and future arts interventions in residential care settings.

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## Evaluating arts interventions in residential homes

### Brief Description

An estimated 850,000 people are living with dementia in the UK at an estimated annual cost of £26.3 billion. The prevalence of this disease is set to double in the next 40 years, with economical and societal impacts on a global scale. Considerable burden falls on residential care facilities and their workforce, where over one third of people with dementia reside. In recent years dementia has become a national government priority, yet a cure is still elusive. Despite, initiatives like the "National Dementia Strategy" which aim at improving dementia services across the country, there is still immense pressure on our social care system.

Increasingly, arts-based interventions have been suggested to play an important role in the care of people with dementia. Research demonstrates that creative and cultural programmes may contribute to successful aging and support a range of cognitive benefits including memory, communication, and engagement. However, the utilisation

of creative arts as a tool to enhance the care and wellbeing of people with dementia is seldom implemented. Consequently, provision of stimulating activity is often an unmet need of residents; little time is afforded for social and emotional support by care personnel.

The UK Arts Council and the Baring Founding have funded a three year programme with the theme of Arts and Older People in Care, Imagine Arts. This programme aims to encourage partnerships between care providers and arts organisations to give care home residents access to high quality arts experiences. This PhD research will investigate the impact on resident and staff outcomes when care personnel are fully informed about the benefits of arts interventions and encouraged to maintain their impact between sessions.

There is a flourishing of creative arts in dementia care, and much innovation is happening in care homes. The findings from this research have the potential to add to the body of knowledge regarding the creative arts and dementia care. The outcome would be recommendations for future approaches to creative activities in residential care, with an aim of suggesting a sustainable approach which can support the professional development of residential care staff in arts engagement programmes.

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Supervisor: Professor Tom Denning

### **The MARQUE project: Managing Agitation and Raising Quality of Life in dementia (Stream 2 – ‘Longitudinal study of agitation, quality of life and coping strategies in care homes’)**

#### Brief Description

Stream 2 - Our study team has learnt from previous research that agitation is extremely common in people with dementia and causes distress to themselves, family carers and paid carers; incurring significant costs and leading to the breakdown of relationships. There are currently no existing datasets for people with dementia living in care homes that include data on residents, paid carers, family carers and cost including cost and environmental characteristics. These are urgently needed to develop an understanding of their inter-relatedness and effect on people with dementia's quality of life.

A home participating with MARQUE involves our research assistants talking to residents, relatives and staff about the resident's quality of life and any symptoms of agitation they may experience. This is done on five occasions over 16 months. Staff also have the opportunity to complete a brief set of questionnaires looking at the ways they cope with caring stresses. We will use our results to test our theory that agitation is an important factor in determining residents' quality of life, and that the ways staff cope with stress affect the impact that agitation has on quality of life. Findings from Stream 2 will be used to develop a manualised intervention which will be tested in a randomised controlled trial in several care homes.

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## **Enhancing the quality of person-centred care in residential homes: Application of the Cognitive Daisy**

### Brief Description

The Cognitive Daisy (COG-D) is an innovative assessment system created to provide healthcare staff with a visual representation of the cognitive status of older adults in residential care [www.cognitivedaisy.co.uk](http://www.cognitivedaisy.co.uk). The aim of COG-D is to remind staff of the severity of problems within different cognitive domains (visuospatial, comprehension, communication, memory and attention) in one glance which can then be used to adjust the interaction with the resident.

Our first study confirmed that the COG-D protocol (neuropsychological test-battery) is appropriate for the assessment of older adults with dementia and is suitable for administering within a care home setting. All care staff who participated in this study rated the importance of understanding cognitive problems for the delivery of person-centred care highly and admitted to finding these very difficult to remember. Notably, they strongly endorsed the use of the COG-D as a visual representation of the cognitive status of each resident and believe that by making cognitive strengths and weaknesses apparent, the COG-D will inform the decision making of carers and improve the quality of care residents receive.

The second study which we are currently conducting investigates the efficacy of the COG-D for improving the quality of care in care homes. It is a complex multicomponent intervention that seeks to increase carers' knowledge of cognitive function in dementia. Staff are also provided with a 'petal-by-petal' COG-D manual which describes in non-technical terms the problems that residents with different COG-D profiles may experience in their daily life and includes practical recommendations for care support. Thirty-five carers and thirty-nine residents are participating in this study. The primary outcome measures for carers include knowledge, competence and approaches to dementia care. Agitation is the primary outcome measure for residents. Focus groups will be used to identify potential barriers and facilitators of the intervention and help guide our implementation strategy. The study concluded in August 2017.

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### **Delivering a Delirium Awareness Toolkit for Care Home Workers – a Pilot.**

#### Brief Description

In older adults, delirium increases the risk of developing dementia by approx. ten times. Equally, living with dementia increases the risk of developing delirium by approx. ten times. Delirium can be life threatening. Given the strong association between these two conditions, we ran a small pilot looking at:

- How much training Derbyshire care home staff received in delirium prevention & care
- How confident staff members felt in recognising and managing symptoms of delirium
- If our training toolkit could make a significant difference to levels of staff awareness and confidence in delivering delirium care for residents including people affected by dementia

We compared feedback taken from before and after the delivery of our toolkit. Fifty-six care home workers took part in this pilot. We delivered it to four care homes – two in the county and two in the city. Two care homes were Local Authority funded and two were private. One care home was located in North Derbyshire and one in South Derbyshire.

We asked care home workers to score themselves on how much previous training in delirium care they had received and on how confident they felt about recognising and treating delirium in older adults including people affected by dementia. Forty-eight care home workers said that they had worked in care homes with people affected by dementia for over 1 year with no delirium training. Eighteen of the care home staff had worked for over 10 years with no delirium training.

Seven out of fifty-six care home workers felt confident recognising symptoms of delirium; three out of fifty-six felt confident to support a person with dementia and delirium. After our 90 minute workshop, forty-six care home workers out of fifty-six said that they now felt very confident recognising symptoms of delirium. Forty-two out of fifty-six said they now felt very confident to support a person experiencing dementia and delirium.

Although the sample size was small, the results seem significant enough to warrant further exploration of the potential benefits of 1) recording delirium on all medical notes to aid understanding/ management of a patient's care needs and 2) offering a delirium awareness toolkit to care home staff. These interventions could prevent some occurrences of delirium and improve person-centred care for people who develop delirium. Increased confidence amongst care home workers in treating a patient with delirium could facilitate a patient's quicker discharge from hospital back to their care home, potentially freeing up bed space sooner in busy hospital wards.

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## Use of Wii balance boards to assess falls risk in care home residents

#### Brief Description

The study will investigate the effectiveness and acceptability of a simple, objective balance measure to improve the identification of care home residents most at risk of falling. This study will use a cheap, portable Nintendo Wii® balance board, which the research team has adapted for use with a laptop to collect and analyse balance data. It has been successfully used in Singapore to predict falls in older adults living in the



community and this study will extend this trial to UK care home settings. Members of the research team have also established the link between instability and cognitive impairment, and this study will also include those with cognitive impairment.

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