



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

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Health care for older people research in Lincolnshire

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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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Foreword

It is with pleasure that we present this brochure on behalf of the University of Lincoln in collaboration with NHS organisations describing research on older people being undertaken in Lincolnshire. This brochure presents an overview of the research that is being undertaken, or which has been recently completed, by research institutes, centres and groups at the University of Lincoln.

Research in Lincolnshire is advancing from strength to strength. A number of large research grants have been awarded from a variety of sources, including public bodies, charitable trusts and private corporations. Current funding includes international sources such as the European Commission (FP7 Programme); European Union H2020 Programme; national funding from UK Research Councils, the National Institute for Health Research, the Health Foundation, British Heart Foundation and Wellcome Trust; and regional funding from the East Midlands Academic Health Science Network (EMAHSN) and the Collaboration for Leadership in Applied Health Research and Care (CLAHRC). Much of our research is applied and of a transformation nature rather than being purely theoretical therefore potentially having more direct impact on the care of older people. There is also extensive collaboration with our NHS colleagues, particularly in Lincolnshire Community Health Services and Lincolnshire Partnership NHS Trust.

We particularly welcome and appreciate the help, support and advice offered by EMRAN in linking up with other researchers within the East Midlands with an interest in older people.

On behalf of researchers in Lincolnshire

Prof. A Niroshan Siriwardena (Director of Community and Health Research Unit)

Prof. C Bridle (Director of Lincoln Institute for Health)



1. University of Lincoln researchers and collaborators – who we are and what we do

Studies involving the health care for older people research in Lincolnshire are carried out by a number of multi-disciplinary research units/groups within the University of Lincoln with different specialist interests but a common focus on older people as follows:

1.1 Lincolnshire Institute for Health (LIH)

The LIH is led by Professor Chris Bridle. The institute's programmes span the pathway from 'bench to bedside' and 'cell to community' and its research focus encompasses biomedicine and disease (including molecular and cell biology), drug design and development (bench), and practice and policy related research into quality improvement in health and social care and the effective translation of research findings into clinical and professional practice (bedside and community). All of its research is underpinned by the concept of the Lincoln 'Living Lab' – creating and conducting responsive research in partnership with service users, health practitioners and organisations, industry and policy makers. To find out more, visit <http://lih.lincoln.ac.uk/>.

1.2 CaHRU (Community and Health Research Unit)

The Community and Health Research Unit (CaHRU), directed by Professor Niro Siriwardena, is the research centre for the School of Health and Social Care, in the College of Social Science at the University of Lincoln and is allied with the Lincoln Institute for Health. Researchers at CaHRU conduct translational empirical and operational research relating to quality improvement in health and social care including quality and outcomes in primary healthcare, prehospital and emergency quality and outcomes, older people and wellbeing by helping to transform health and social care services and systems in the UK and internationally through world leading research. To find out more, visit <http://cahru.org.uk/>.

1.3 Lincoln Centre for Autonomous Systems Research (L-CAS)

The Lincoln Centre for Autonomous Systems Research (L-CAS) is led by Professor Tom Duckett. L-CAS specialises in perception, learning, decision-making, control and interaction for autonomous systems, such as robots, and the integration of these capabilities in application domains including personal robotics, assistive care, security and agri-food technology. Their ambition is to become one of the world's great robotics labs, working on technologies for enhancing the quality of life, including the quality of our health, wellbeing and the food we eat. L-CAS are at the cutting edge of robotic

advances in the field of providing care for older people and are involved in a number of studies helping older people to stay independent and active for longer. For example, Mobile service robots developed by computer scientists at the University of Lincoln could soon be helping elderly people stay independent and active for longer. A new international project will test the ability of the KOMPAI robot to support ageing populations by assisting residents of care homes in three European countries. Despite significant progress in human-robot collaboration, today's robotic systems still lack the ability to adjust to an individual's needs. To find out more, visit <https://lcas.lincoln.ac.uk/wp/>.

1.4 Health Advancement Research Team (HART)

The Health Advancement Research Team (HART) group is led by Director, Prof. Jacquelyn Allen-Collinson. The interdisciplinary team conducts research in a wide range of gender, health, sport, exercise and body related issues including exercise, obesity and ageing. Our work ranges from fundamental theoretically-driven research, and innovative methodologies, to specific interventions using a variety of approaches including psychology, sociology, biomechanics, nutrition, and physiology. While research in HART is not exclusively related to healthy ageing, examples of studies undertaken include older adults' embodied experiences of aquatic physical activity, connectivity amongst rural older people, and a current doctoral research study on physical activity, ageing and embodiment: investigating contested memories of being a physically active older adult. To find out more, visit <http://hartresearch.org.uk/>.



**Professor Jacquelyn
Allen-Collinson**

1.5 The Perception, Action and Cognition Research Group (PAC)

The Perception, Action and Cognition research groups (PAC), led by Professor George Mather, is based in the University of Lincoln School of Psychology and undertakes



**Professor George
Mather**

research focused on a broad range of issues including research in vision, visual movements and processing, perception cognition and memory including the use of visual processing in identification and treatment of disease. The group have extensive internal and external collaborations with researchers in social psychology, forensic psychology, neuroscience, animal science, computer science and media studies and have successfully attracted external funding from Leverhulme Trust, EPSRC, ESRC,

Nuffield Foundation, Royal Society, Home Office and NHS. To find out more, visit <http://psychpac.blogs.lincoln.ac.uk/>.

1.6 Healthy Ageing Research Group (HARG) The Healthy Ageing Research Group (HARG) overseen by Dr Janet Walker is based in the School of Health and Social Care with cross-college/school participation from LIH, Psychology, education, Computer Science, Sports Science, Architecture, and Social Policy and Business. The main aims of the group are to conduct research to help shape the development and implementation of 'healthy ageing', prevention and early intervention strategies across health and social care systems in the UK, nationally and internationally. To find out more visit <http://harg.blogs.lincoln.ac.uk/>.



Dr Janet Walker

1.7 External working partnerships

We are proud of our close research collaboration with our NHS colleagues particularly in Lincolnshire Community Health Services (LCHS), Lincolnshire Clinical Commissioning Groups (CCG), and Lincolnshire Partnership Foundation Trust (LPFT) which helps to foster early adoption of research findings into clinical practice. External research links include National Institute for Health Research (NIHR); CLAHRC East Midlands; East Midlands Academic Health Sciences Network (EMAHSN); East Midlands Research into Ageing Network (EMRAN) and many other universities in the UK and abroad.

1.8 Patient and Public Involvement (PPI)

Patient and Public Involvement is a core element running through all the research undertaken by the University of Lincoln. The Healthy Ageing Patient and Public Involvement (HAPPI) group was established in July 2014 and has grown thanks to funding they received from the EMAHSN. The group has informed bids for funding, given a patient and public perspective on current research projects, reviewed documents to help make them more accessible to the general public and have been actively involved in recruitment of participants for studies. Several have had experience of caring for people with long term conditions (Amanda Brewster and Pauline Mountain) and working in the NHS (Amanda). Pauline Mountain has a MBE for her charity work including in the setting up of HOPE - Hearts Of Positive Energy, Heart Failure Support Network www.hopelinks.org.uk.

Several members attended the PPI training course run by the NIHR Research Design Services (RDS). The course looked at what PPI is, and why the public are involved in our research. We looked at how to incorporate meaningful public involvement in research and what some of the challenges are. The training has motivated the group to continue to develop involvement in research and to work together to improve health research, delivery and outcomes patients in Lincolnshire and the East Midlands.



2. Our research topics

Given the breadth of expertise at the University of Lincoln can boast, our research covers the following topics which look at different aspects of life for older people:

- Information and Assistive Technology
- Care Navigation and Pathways for Older People
- Caring for people with Dementia
- Social and Emotional effects of ageing

2.1 Information and Assistive Technology



Dr. Jo Middlemass

2.1.1. Older people and Telemonitoring

Title of research: Randomised clinical control trial of a new home monitoring system for patients with Multimorbidities: Chronic obstructive pulmonary disease (COPD) with Chronic heart failure or Ischaemic heart disease. (CHROMED)

Funding body: European Funding FP7

Status of the study: Data collection completed (March 2016)

Date of completion: 2016

Study chief investigator and co-investigators: European consortium made up of members from Italy, Sweden, Slovenia, Barcelona, Estonia, Norway, Liverpool and a Lincoln site steering group made up of Prof Niro Siriwardena, Dr. Jo Middlemass, Janice Wiseman, Jane Scrafton, Jacqui Trueman, Mary Day, Jolien Vos, Prof Karen Windle (now at University of Stirling), Sue Cousland and Dr Tony Hill.

Brief outline of aims/methods and results: The RCT (run over three years) was designed to test using telemonitoring could identify chest infections early in order reduce emergency hospital admissions, lengths of stay and improve the quality of life for the patient. The study commenced with a feasibility study (Phase A) five patients testing the equipment in their own homes for a two month period with no alert system, followed by Phase B which was the full clinical trial with 32 patients split over two nine month periods. The data collection was completed at the end of March 2016 and the analysis ongoing. Early results from the feasibility study found that the system identified chest infection five days in advance of the patient being treated.



As part of the overall study we undertook a nested qualitative study conducting interviews with those who had the equipment to gain a perspective of their views and experiences of telemonitoring.

For more information please contact: Dr Jo Middlemass email jmiddlemass@lincoln.ac.uk

2.1.2 Robots as companion in physical therapy for older adults with dementia

Title of the research: Spatio-Temporal Representation and Activities for Cognitive Control in Long-Term Scenarios (STRANDS): Lessons learned from the deployment of a long-term autonomous robot as companion in physical therapy for older adults with dementia

Funding body: European Community's Seventh Framework Programme under grant agreement No. 600623, STRANDS

Status of the study: Completed and accepted for publication at the International Conference on Human-Robot Interaction 2016

Date of completion: 15/06/15

Study chief investigator and co-investigators:

Denise Hebesberger[1], [Christian Dondrup](#)[2], Marc Hanheide[2], Tobias Koertner[1], Christoph Gisinger[1], Jürgen Pripfl[1]

[1] Akademie für Altersforschung am Haus der Barmherzigkeit, Vienna, Austria

[2] University of Lincoln, Brayford Pool, Lincoln LN6 7TS, United Kingdom

The deployment of the robot was led by the Marc Hanheide and Christian Dondrup from the University of Lincoln, and the data collection and evaluation was led by Denise Hebesberger from the "Akademie für Altersforschung am Haus der Barmherzigkeit" (Academy for Ageing Research at the elder care home "Haus der Barmherzigkeit") in Vienna, Austria.

Brief outline of aims/methods and results: The elderly care sector is a promising deployment area for robotics, where robots can support staff and help to bridge the predicted staff-shortage in this sector. Requirement analysis showed that one field of robot-deployment can be supporting physical therapy of older adults with advanced dementia. To explore this possibility, a long-term autonomous robot was deployed as a walking group assistant at a care site for the first time.

For a month the robot accompanied two weekly walking groups, offering visual and acoustical stimulation. Therapists' experience, the robot's influence on the dynamic of the group and the therapists' estimation of the robot's utility were assessed using a mixed methods design consisting of observations, interviews and rating scales. Data

collection started two weeks prior to and ended one week after the robot's deployment. Effects found during the sessions thus could be traced back to the presence of the robot.

Findings suggest that a robot has the potential to enhance motivation of participants suffering from dementia, group coherence and also mood within the walking group. Furthermore, it was found that older adults show curiosity and openness towards the deployed robot.

For further information:

The study will be published at the HRI conference:

<http://humanrobotinteraction.org/2016/>

The projects website holds additional information about our work in general:

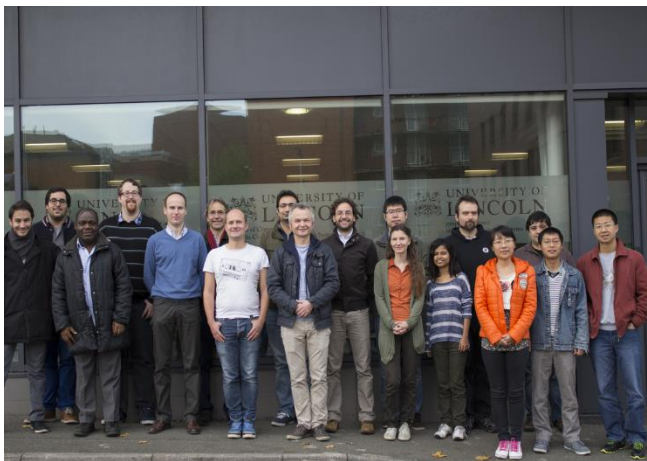
<http://strands-project.eu>

The care home for older people at which the study was conducted:

<https://www.hausderbarmherzigkeit.at/en/home/>

Christian Dondrup, Dipl.-Inform., PhD Student in Computer Science, University of Lincoln
Brayford Pool, Lincoln, LN6 7TS, Tel.: +44 (0) 1522 83 7453, Email:

cdondrup@lincoln.ac.uk



Lincoln Centre for Autonomous Systems Team



Human-Centred Robotics – the STRANDS project

Title of the research: ENRICHME: **EN**abling **R**obot and assisted living environment for **I**ndependent **C**are and **H**ealth **M**onitoring of the **E**lderly

Funding body: European Union H2020 Programme

Status of the study: Ongoing.

Date of completion (or expected completion): February 2018

Study chief investigator and co-investigators: The consortium consists of 10 partners from six different EU countries. Principal investigator is Dr Nicola Bellotto from Computer Science at the University of Lincoln.



Dr. Nicola Bellotto

Brief outline of aims/methods and results: ENRICHME (ENabling Robot and assisted living environment for Independent Care and Health Monitoring of the Elderly) is an international collaboration involving the University of Lincoln in the UK. The research will develop and test the ability of robots to support our ageing populations and see service robots integrated with 'smart home' technology in order to provide round-the-clock feedback to elderly users, carers and health professionals. Alfie, featured in The Times in December 2015, is one of these prototype robots that Dr Bellotto's team are using to develop novel software algorithms for monitoring the elderly at home.

Tasks the robots will be designed to help with include giving reminders to take medication, locating lost objects around the home and enabling video chat with family and friends to reduce loneliness.

The system being developed builds on recent advances in mobile service robotics and ambient assisted living to help people improve health and wellbeing. It will be of particular benefit to those people who have mild cognitive impairments, for example older people who are still physically healthy but may have early symptoms of dementia.

Contact for further information: nbellotto@lincoln.ac.uk



2.2 Care navigation and pathways for older people

2.2.1 Title of the research: Feasibility and acceptability of using ICT for care navigation in older people with multimorbidity

Funding body: PhD study

Status of the study: Ongoing

Date of completion (or expected completion): September 2016

PhD Student: Jolien Vos

Supervisors: Prof Karen Windle (University of Stirling) and Prof Niro Sirwardena.

Brief outline of aims/methods and results: This study aims to visualise the care surrounding older people with multimorbidity. Through the use of Social Network Analysis and Semi-Structured Interviews an understanding is gained of who is involved in their care (network); how these people interact; how patients navigate through the (wider) health and social care system; which obstacles they encounter and how they would like these to be addressed.

For further information please contact: Jolien Vos: email j.vos@ucl.ac.uk

2.2.2 Title of the research: The role of Care Navigation in promoting the wellbeing of older people; A Realist Evaluation

Funding body: CLAHRC East Midlands – PhD Studentship

Status of the study: Ongoing (Sep 2015 – 2018)

Date of completion (or expected completion): October 2018

PhD Student: Rebecca Turner

Supervisors: Prof Chris Bridle, Prof Karen Windle (University of Stirling), Dr. Neil Chadborn (University of Nottingham)

Brief outline of aims/methods and results: The project aim is to explore the role of Care Navigation in promoting the wellbeing of older adults. Care Navigation is a new model of care, or 'wellbeing service' which aims to support individuals to identify and access timely and appropriate support across health, social, third sector and community provision. This project will study and compare two different models of Care Navigation based in Lincolnshire; 'T.E.D Friends' Community Navigator service based in East Lindsey, and Primary Care Navigators based in Lincolnshire West. A Realist Evaluation approach will be employed which will focus on how differences in the aims, delivery and functions of Care Navigation along with the approaches of the Care Navigator impact on service user outcomes in relation to wellbeing. Methods will include a realist synthesis, documentary analysis and qualitative 'realist' interviews with both staff and service users. Data analysis will involve configuring context, mechanism and outcome patterns in order to identify the underlying generative mechanisms through which Care

Navigation works, and which contexts are necessary for them to be exercised. It is expected that the results will inform improvements in future practice.

2.2.3 *Title of the research:* Evaluating new models of integrated care for older people

Funding body: RIF Studentship

Status of the study: Ongoing

Date of completion: Submission of PhD thesis expected May 2018

Study chief investigator: Anna Thomson

Co-investigators: Dr Ros Kane, Dr Paul Turner, Prof Chris Bridle

External collaborators: Prof Karen Windle (University of Stirling), Carol Cottingham (Lincolnshire West Clinical Commissioning Group)

Aims: The aim of this research project is to explore the effectiveness of new models of integrated care for older people, in order to build on existing international and national evidence and address key transferable issues. The project will work alongside Lincolnshire West Clinical Commissioning Group and their developing Neighbourhood Teams in order to evaluate their approach to integrating care for this population, and consider the impact on outcomes for service users (e.g. change in service use, improvements in health-related quality of life) and service providers (e.g. interdisciplinary team performance, staff morale). Considerations will also be made as to how this integrated care strategy may be rolled out nationally.

Methods: Three parallel work streams are being carried out in order to explore the implications of the move toward system-integration.

WS1: Systematic Review

A systematic review is being conducted in order to address the following research question: *Do integrated care models and processes demonstrate improved outcomes for older people?* The purpose of the review is to evaluate the different approaches to integrating care for older people with multiple long term conditions, and to identify the associated processes and outcomes.

WS2: Mapping of integrated care

The aim of this work stream is to map the process of Lincolnshire West's approach to integrating care for older people. This concept is being examined through the use of semi-structured interviews with strategic staff, an online questionnaire with operational staff and documentary analysis.

WS3: Impact on care

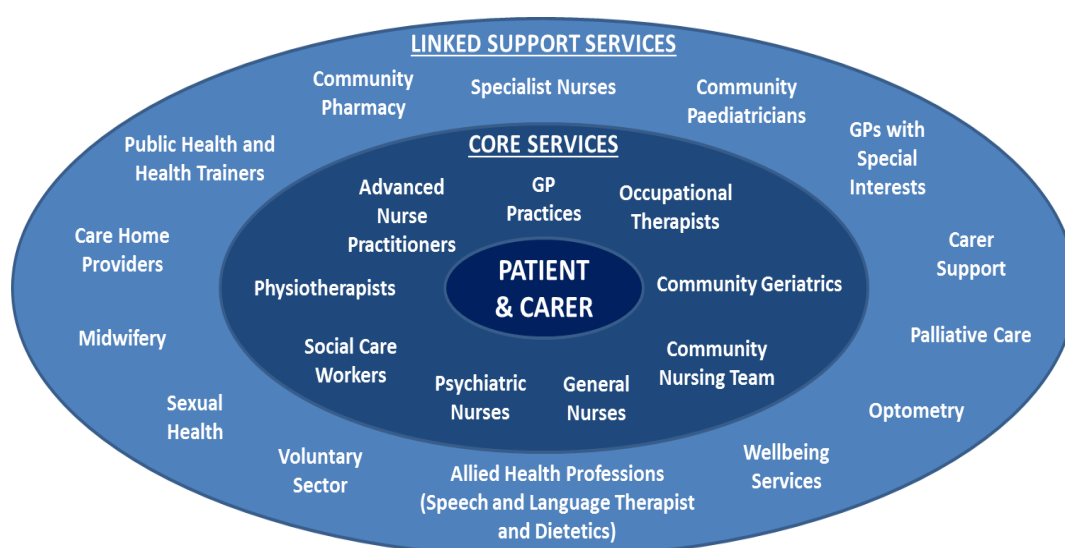
The aim of this work stream is to consider the impact of the integrated model on outcomes for patients (e.g. quality of life, social isolation). Semi-structured patient interviews will

be carried out with service users, in order to investigate patient experience of integration and explore any reduction in fragmented care.

Link for further information: <http://www.lincolnshirewestccg.nhs.uk/neighbourhood-teams>.

Developing Neighbourhood Teams Model

(Lincolnshire West Clinical Commissioning Group)



2.2.4 Title of service evaluation: The impact of the Bromhead Care Home Service offering advance care planning for care home residents in the Lincoln district on health service utilization in the last year of life

Funding body: The Bromhead Medical Charity

Status of the study: In progress

Date of completion: 2017

Study chief investigator: Dr Gill Garden

Supervisors: Professor John Gladman and Associate Professor Adam Gordon (University of Nottingham)

Brief outline of aims/methods and results: A service offering Comprehensive Geriatric Assessment delivered by a multidisciplinary team is being delivered to 26 care homes in Lincoln and the surrounding area. After an initial pilot in two care homes, a step wedge cluster model will be used, with the order determined by randomisation of the remaining care homes. Residents referred by their GP receive a comprehensive geriatric



Dr. Gill Garden

assessment, with a view to optimising function, reviewing medication and determining prognosis. Discussions with the resident or on a best interests' basis with the family are held to discuss the outcome of the assessment and an anticipatory care plan care is drawn up. It is our experience from phase 1 of the Bromhead Care Home Service that 90% of families opt for a palliative care plan. With this experience in mind, difference in admissions to hospital, mortality rates and health service utilisation will be measured for the residents/families opting for palliative care as opposed to those who opt for escalation of care. In addition measures of quality including falls, pressure sores medication and nutritional review will be measured. It is planned to undertake a qualitative study of the differences in attitudes to death and satisfaction with care between the two groups.

Contact details for more information: Dr Gill Garden
gill.garden@stbarnabashospice.co.uk

2.2.5 Title of service evaluation: Evaluation of the Rehabilitation Medicine Community Outreach Team: Lincolnshire

Funding body: United Lincolnshire Hospitals Trust (ULHT)

Status of the study: Completed

Date of completion: November 2015

Study chief investigator and co-investigators: Dr Jane Deville, David Nelson, Carol Duff, Dr Ros Kane.



Dr Jane Deville

Brief outline of aims/methods and results: The Rehabilitation Medicine Service within United Lincolnshire Hospitals NHS Trust (ULHT) had expanded its Community Outreach Team service from two to four locations across the county in order to ensure equity of service across Lincolnshire and reduce hospital admissions.

The evaluation aimed to examine the views of service users and stakeholders about the increased service and identify any strengths and weaknesses occurring across the initiative. A range of data collection methods were used including patient questionnaires, focus groups, in depth interviews with stakeholders and a staff survey. Overall the evaluation found the Rehabilitation Medicine Community Outreach Team were a very successful team and held in high regard by both their patients and the stakeholders they liaised with. The expansion appeared to be leading to an increased, more equitable service across the county. Patients were very positive about the time that the team spent with them and the support they received. This was reflected by staff feeling more able to deliver a good quality service to their patients with improved response times and a wider range of therapies available. The benefits of home visits was also stressed by

patients, staff and stakeholders. Some patients also talked about the wider impact the service had had on their quality of life. Stakeholders interviewed had good working relationships with the Outreach Team and communication with patients and carers was positive. There were some issues raised around the team's name and a re-branding, along with promotion to both stakeholders and patients, was recommended. The report has subsequently been used to demonstrate the value of the Rehabilitation Medicine Community Outreach Team and secure funding for a permanent service across Lincolnshire.

Contact details for further information: Dr Jane Deville jdeville@lincoln.ac.uk

2.3 Caring for people with dementia

2.3.1 The Cognitive Daisy (COG-D) recognizing the cognitive status of older adults in residential care.

Title of the research: The Cognitive Daisy (COG-D) – a novel method for recognising the cognitive status of older adults in residential care.

Status of the study: The proof of concept was completed in spring 2016 the findings of which have been submitted for publication in the innovative practice section of the journal *Dementia: the international journal of social research and practice*. A study to test minor modifications of the protocol and examine the feasibility of implementing the COG-D on a larger scale will commence in autumn 2016. A randomly controlled study is planned for 2017.

Study chief investigator and co-investigators: The principle investigators are Dr John Hudson and Dr Petra Pollux from the School of Psychology, University of Lincoln. The steering committee includes: Julie Quincy (Operations Manager), Mark Howard (Admiral Nurse), Esme Moniz-Cook (Prof. Dementia Research; Associate Director R&D and Clinical Innovation/Consultant Clinical Psychologist)

Brief outline: The COG-D is an innovative assessment system created to provide healthcare staff with an instant snapshot of the cognitive status of older adults in residential care. The COG-D comprises a flower head consisting of 15 colour coded petals depicting information about five cognitive domains: visual-spatial perception, comprehension, communication, memory and attention. The level of impairment in each of these areas is determined by a specific test and denoted by the number of coloured petals. The proof of concept study confirmed the practicality of the COG-D protocol for assessing cognition in older adults living in residential care ($n = 33$; mean = 87 years) and care staff ($n = 29$) endorsed the use of the COG-D as a tool for recognising the

cognitive status of each resident and believe that by making cognitive strengths and weaknesses apparent the COG-D can enhance the quality of person-centred care. Moreover, implementation of the COG-D markedly improved knowledge of cognitive dysfunction in dementia and facilitated communication between care staff about residents.

Contact details for further information: Dr John Hudson, by email jhudson@lincoln.ac.uk; Dr Petra Pollux, by email ppollux@lincoln.ac.uk

2.3.2 Title of research: Carers of people with Dementia: Empowerment and Efficacy via Education (CAD: E³)

Funding body: Research Investment Fund, University of Lincoln, UK

Status of the study: Initial work completed. Awaiting decision of funding application with Alzheimer's Society

Date of completion: Initial work completed August 2015. Further development expected completion 2018

Study chief investigator and co-investigators for original RIF bid: Dr Jo Middlemass with co-applicants Professor Terence Karran, Prof A. Niro Siriwardena, Dr John Hudson, Paul Mansfield, Prof Karen Windle (University of Stirling University) and Research Assistant Despina Laparidou

The main aim of the study conducted between August 2014 and July 2015, was to improve outcomes for carers of people with dementia and the people they care for, by developing a multicomponent intervention for carers of people with dementia with an emphasis on education and skill-building for carers, hence, increasing their empowerment and self-efficacy levels in providing support for their patients.

The first phase of the study involved conducting a systematic review in order to identify past interventions that individually or in combination have been shown to be effective/cost-effective for improving outcomes for carers and patients with dementia. The findings of the review revealed that psychoeducational and educational interventions for carers were successful in improving carer-related outcomes, but less so in improving patient-related outcomes; whereas multicomponent interventions were found to be effective across various outcomes and only produced mixed results for care recipient institutionalisation. Results for the cost-effectiveness of interventions were scarce and inconsistent. In addition, we conducted various focus groups and a workshop with healthcare professionals, carers and patients to explore their views and preferences on future interventions and inform the design of our proposed intervention. Based on these findings we have developed a complex multicomponent intervention aimed at improving

outcomes for carers of people with dementia and their patients. We are now in the process of applying for further funding in order to investigate the feasibility of a cluster randomised controlled trial (CRCT) of our complex multicomponent intervention for improving outcomes for carers of people with dementia and their care recipients.



2.4 Social and emotional effects of ageing

2.4.1 Title of Research: How ageing affects our understanding of emotion from other humans and pets

Funding body: Research Investment Fund, University of Lincoln, UK

Date of completion (or expected completion): 2018

Study chief investigator and co-investigators: Dr. Kun Guo, Prof. Daniel Mills, Ms. Cátia Correia Caeiro

Brief outline of aims/methods and results: This multidisciplinary project is investigating how people and dogs of different ages read emotional cues in each other, in order to understand how ageing affects emotion discrimination in both species. Emotion is central to any social interaction and research has shown that its perception significantly changes across ages, particularly in older adults. Due to the process of domestication, pet dogs possess specialized socio-cognitive skills that allow a remarkable understanding of people's intentions and emotions. By interacting with human owners, dogs might have a therapeutic role in combating cognitive decline in the aging population. Using a comparative approach combined with non-invasive eye-tracking technology to assess how sensitive humans and dogs are to each other's facial expressions and bodily gestures across lifespan, this study will examine important cognitive mechanisms underlying emotion perception, how this process is affected at later stages of life, and what a potential coping strategy could be adopted. *For further information please contact:* Ms. Cátia Correia Caeiro email ccorreiacaeiro@lincoln.ac.uk

Nancy LeVine



2.4.2 Title of the research: Beyond 60

Funding body: Privately funded (via PhD at University of Lincoln)

Status of the study: Fieldwork in progress

Date of completion: Summer 2017

Study chief investigator and co-investigators: John Gray

Brief outline of aims/methods and results: A case study being carried out in an English village considers the question "What does it mean to retire & become older in our village nowadays, and how do we plan for, enjoy and learn from it?" The study uses a questionnaire-based survey of all households in the study village to establish a profile of its residents over the age of 60, followed by interviews and focus group discussions with questionnaire respondents selected to reflect the range of age, gender and views expressed. Analysis of the research data will describe and seek to explain the influence of formal and/or informal learning through social networks, real and/or virtual, on post-60s' retirement, ageing, and wellbeing, drawing on the findings of – and the secondary data from – national studies like the English Longitudinal Study of Ageing. The planning of this research has been influenced by the adoption of Wenger's 'social theory of learning' as a lens through which to consider the validity of 'learning as becoming' as a way of understanding the learning activities and needs of older people.

For further information: <http://uk.linkedin.com/in/jgrayplanar>

2.4.3 Title of the research: Gaze coordination in social interaction: Effects of Parkinson's disease

Funding body: BA/Leverhulme Small Research Grants

Status of the study: Ongoing

Date of expected completion: 31/3/2017

Study chief investigator and co-investigators: Dr Frouke Hermens and Professor Timothy Hodgson

Brief outline of aims/methods and results: Humans are social beings and social interactions with others strongly contribute to a sense of well-being. Part of such social interactions involves the coordination of each other's gaze. A hallmark of Parkinson's disease is the impairment of facial movements and expressions, as well as an impaired understanding of other people's emotional expressions. Using the latest in eye tracking technology and data analysis the project will determine how impairments in emotion expression and understanding, as found in Parkinson's disease, influence gaze interactions. The findings will create a basis for future work into the understanding of the interplay between emotions and social interactions and will provide a pathway towards

the development of specific training methods to cope with the impairments in social interactions in Parkinson's disease.

Contact details for further information: fhermens@lincoln.ac.uk

2.4.4 *Title of the research:* Eye-Foot coordination in stair locomotion. The effects of age and distraction

Funding body: University of Lincolnshire College of Social Science Research Fund

Status of the study: Ongoing

Date of completion: July 2017

Study chief investigator and co-investigators: Dr Frouke Hermans and Professor Timothy Hodgson

Brief outline of aims/methods and results: Walking up or down the stairs is a complex perceptual-motor task and a major cause of fatal falls in older people. The motor component of step locomotion has been extensively investigated, but much less is known about how eye movements and stepping are coordinated and it is unclear whether and how visual sampling of the surroundings may play a role in fall prevention in this age group.

In the proposed project, we will make use of our latest technology (the Tobii II glasses, funded by RIF support to F. Hermans) to determine where participants look when walking up the stairs to establish the need for this type of research, the feasibility of studying visual sampling during stair locomotion with our equipment and to determine how secondary tasks influence different age groups,

We aim to recruit 15 young (18-25 years) and 15 older adults (60-80 years), whom we will ask about their experiences in stair locomotion. They will also perform two tasks. The first will be climbing a range of different stairs without impediment. Participants will then perform the same task while using a mobile phone. Gaze data will be analysed for gaze behaviour towards the steps, the handrail, the feet, and the phone (in the relevant condition). Our hypotheses are that older people will focus more strongly on the steps and their feet during the tasks and that during mobile phone use, the participants' gaze will be distracted away towards the phone and that there is stronger demand for this research in older people. Only stair climbing will be considered for safety reasons.

Contact details for further information: fhermens@lincoln.ac.uk

2.4.5 Title of the research: Exploring the new participant experience and effect of the Lincolnshire's 'Vitality' class programme

Funding body: Commercial sector funded evaluation project – Vitality

Status of the study: In progress (Started October 2015)

Date of completion (or expected completion): May-June 2016

Study chief investigator and co-investigators: Geoff Middleton, Dan Bishop, Lee Crust, Miss Robyn Hambrook

Brief outline of aims/methods and results: The study intends to evaluate the new participant experience and effect of the Lincolnshire-based 'Vitality' programme. The programme delivers exercise to music classes incorporating physiotherapy-based movements for the over 60s across Lincolnshire at multiple sites. Thirty to forty mixed gender participants, aged 60 – 90yrs, are expected to be recruited from the programme over the course of 6 months. Both quantitative and qualitative data will be collected to understand and examine new participant health-related outcomes (functional fitness and psychological aspects).

Further information: <http://www.vitalitylincs.co.uk/>

2.4.6 Title of the research: Physical activity, aging and embodiment: investigating contested memories of being a physically active older adult

Funding body: University of Lincoln PhD funding

Status of the study: Commenced 2014, ongoing

Date of completion (or expected completion): 2017

PhD Student: Rachel Williams

Supervisors: Dr Jacquelyn Allen-Collinson, Prof Karen Windle (University of Stirling) and Dr Adam Evans (University of Copenhagen)



Ms Rachel Williams, Dr Jacquelyn Allen-Collinson, Prof Karen Windle, Dr Adam Evans

Brief outline of aims/methods and results:

The context for the project is widespread concern within the UK regarding the ability of healthcare services to manage age-related health and wellbeing, and the role of Physical activity in encouraging older adults to maintain healthy lifestyles. Physical activity

interventions often tend to 'treat' old age as an illness and ignore the subjective, lived elements of ageing, and the research seeks to challenge this taken-for-granted assumption. The overarching aim of the research is to examine a particular population of retired servicemen who served in the British Armed Forces, and are now based in Lincolnshire. Focus groups and semi-structured interviews are the primary methods of data collection. The study takes a longitudinal and sociological perspective in order to examine in-depth the topical life-histories of the men's embodied life experiences in relation to ageing, the ageing experience and physical activity. We are particularly interested in how inter-corporeal experiences (relationships between bodies) affect participants' memories and experiences in relation to physical activity and ageing. The corporeal, and particularly the inter-corporeal, dimension of older people's lived experiences remain under-researched at present, and we seek to address this lacuna. For further details: <http://hartresearch.org.uk/> or contact Dr Allen-Collinson at: jallencollinson@lincoln.ac.uk

2.4.7 Title of the research: LGBT people aged 60+ and their experiences and beliefs regarding GP services

Funding body: University of Lincoln Research Investment Fund PhD study

Status of the study: The data collection stage will conclude August 2016. Analysis is currently underway

Date of completion: September 2017

PhD Student: Michael Toze

Supervisors: Dr Michael Rasell, Dr Zowie Davy (De Montfort University) and Dr Jacquelyn Allen-Collinson

Brief outline of aims/methods and results: This is a qualitative interview study exploring the experiences and beliefs of lesbian, gay, bisexual and trans (LGBT) people aged over 60 regarding general practice services. The study particularly focuses on the factors affecting older LGBT people's decisions regarding discussing and addressing identity within general practice. It also considers how older LGBT people utilize other sources of community support (such as support groups, online information etc.) in order to access healthcare advice and support.

Contact for further information: Michael Toze mtoze@lincoln.ac.uk 01522 835443

2.4.8 Title of the research: Gambling Behaviour and Motivation in British Older Adult Populations: A Grounded Theoretical Framework

Funding body: Responsible Gambling Trust (PhD Bursary, £59,900, 2011-2015)

Status of the study: Accepted for publication in the *Journal of Gambling Issues*

Date of completion: Completed

PhD Student: Mrs. Julie Pattinson.

Supervisor: Dr Adrian Parke.

Brief outline of aims/methods and results:

Objectives: It has been observed that gambling participation amongst older adults aged 65 and above within Great Britain has increased. However, there is limited research and therefore understanding about gambling cognitive and behavioural patterns for this demographic. The objective of the study is to develop a substantive framework that represents the gambling behaviour of GB older adults, with specific reference to motivational factors affecting behaviour.

Design: A Systematic Grounded Theory approach (Strauss & Corbin, 1998) was employed to produce an inductive set of theoretical propositions. A stratified sample of 17 British older adults aged 65 years and older, who gambled frequently, was recruited. Theoretical sampling was used to fully develop emerging concepts.

Findings: Axial and selective coding revealed that gambling was often employed as a coping mechanism to alleviate distress from psychological and physical lifestyle changes associated with the ageing process. In total, four grounded theoretical propositions emerged accounting for gambling participation including: Facilitation of Gambling, Psychological Stress Reduction, Physical Stress, Mediation and Satisfaction of Stimulation Needs.

Discussion: Patterns emerged from the data suggesting unique motivational factors regarding older adult gambling behaviour within Great Britain, in contrast to other adult populations. This is the first study to investigate British older adult gambling behaviour and new directions for future research are discussed in relation to emergent findings.

Contact details for further information: aparke@lincoln.ac.uk

2.4.9 Title of the research: The Experience of High Frequency Gambling Behaviour of Older Adult Females in the United Kingdom: An Interpretative Phenomenological Analysis

Funding body: Responsible Gambling Trust (PhD Bursary, £59,900, 2011-2015)

Status of the study: Accepted for publication in the *Journal of Women & Aging*

Date of completion (or expected completion): Completed

Lead Researcher: Mrs. Julie Pattinson.

Supervisor: Dr Adrian Parke.

Brief outline of aims/methods and results:

The prevalence of older adult female gambling participation and gambling disorder is increasing in the UK, and there is a paucity of published research available to understand possible risk factors for frequent gambling in this demographic. The aim of the current study was to identify and explore motivations and patterns of gambling behaviour in high frequency older adult female gamblers in the UK, from the perspective of individual and in the context of their experience of aging. Ten UK older adult female high frequency gamblers were recruited via stratified purposive sampling, with a mean age of 70.4 years. Data was collected via semi-structured interviews, and was analysed using Interpretative Phenomenological Analysis. Three core themes representative of the experience of this phenomenon emerged from the transcripts including: Filling Voids, Emotional Escape and Overspending. The present study has provided a contextualised understanding of motivating factors and several age-related vulnerabilities which may account for high gambling frequency in this population.

Contact details for further information: aparke@lincoln.ac.uk

2.4.10 Title of the research: 'Staying Well in Calderdale': Programme Evaluation

Funding body: £59,979 Calderdale Council, Calderdale Clinical Commissioning Group

Status of the study: October 2014 – April 2016 Completed

Study chief investigator and co-investigators: Prof Karen Windle (Study Chief Investigator now at University of Stirling), Thomas George (Co – Investigator and Research Assistant), Other co-investigators Professor Steve McKay, Rebecca Porter, Dr. Martin Culliney, Dr. Janet Walker, Jolien Vos, Dr. Nadya Essam and Heather Saunders. External collaboration(s): Caron Walker (Chair of Steering Group), Julie Hosty (Project Manager)

Brief outline of aims/methods and results:

The aims of the study were to reduce social isolation and loneliness; reduce less appropriate health and social care use; to strengthen initiatives that could support early intervention and prevention; and improve community capacity and cohesion.

A multi-method approach was taken that included: 83 interviews with strategic and operational staff over three time points; secondary data analysis of 779 anonymised user records; four process mapping exercises involving 17 operational staff; 378 self-completion questionnaires and; financial records completed by the central 'programme' manager and four hubs.

Results demonstrated that the programme was effective in ensuring appropriate inclusion; 55% of users were drawn from the most deprived areas. Those who live in areas of higher deprivation reported a lower quality of life, health-related quality of life, a greater number of long-term conditions and higher levels of loneliness and social isolation when compared with their less deprived peers. At base-line almost two-thirds of the sample (64%) identified themselves as lonely or very lonely. Overall, the mean 'score' of loneliness fell; users reported feeling less lonely than before the start of the programme. Users that accessed the Elland and District 'Staying Well' programme reported a (significant) 10% improvement in their health state. The 'Staying Well' programme was effective in developing and strengthening cohesive or connected communities. The programme has yet to achieve full cost effectiveness owing to the short-time frame that the programme has been in operation. In particular, the changes in outcomes (health-related quality of life) were measured across a scant four months.

Contact for further information:

Professor Karen Windle – k.i.windle@stir.ac.uk

Mr. Thomas George – tgeorge@lincoln.ac.uk

Windle, K., George, T., Porter, R., McKay, S., Culliney, M., Walker, J., Vos, J., Essam, N., Saunders, H. (2016) '*Staying Well in Calderdale*' Programme Evaluation: Final Report. Lincoln, University of Lincoln. ISBN 978-1-86050-250-7.



2.4.11 *Title of the research:* 'Developing a programme theory of integrated care: the effectiveness of Lincolnshire's multidisciplinary Neighbourhood Teams in supporting older people with multimorbidity (ProTICare)'

Funding body: Research Investment Fund (RIF) University of Lincoln £41,829.36

Status of the study: Commenced: 1st August 2016

Date of expected completion: 31st July 2017

Study chief investigator and co-investigators: Dr. Janet Walker (Study Chief Investigator), Thomas George (Co – Investigator and Research Assistant). Other Co-investigators Professor Steve McKay, Professor Mo Ray and Dr. Ian McGonagle.

External collaborations: Carrol Cottingham (Commissioner – Lincolnshire West Clinical Commissioning Group), Janice Wiseman (Research and Innovation manager, Lincolnshire Community Health Services) and Tim Gadd (Project Manager Neighbourhood Team)

Brief outline of aims/methods and results:

The aim of this research study is to assess the mechanisms and effectiveness of six Integrated Neighbourhood Teams, with an urban/rural mix, in Lincolnshire supporting older people with multi-morbidity. Objectives include: i.) to develop a 'programme theory' for integration through Integrated Neighbourhood Teams, emerging the transferable mechanisms that relate to their structures and processes; ii.) to identify and develop a typology of activity through assessment and exploration of the structures and processes of the six Integrated Neighbourhood Teams (e.g., roles, skill mix, training requirements, facilitators to structural integration, changes in user's quality of life, reductions in unnecessary secondary and community service use); iii.) to explore the impact of the Integrated Neighbourhood Teams on system, service and financial integration and iv.) to measure the effectiveness of the six Integrated Neighbourhood Teams in improving older people's quality of life through delivering seamless user and carer level pathways.

The research methods applied is a multi – method approach via three workstreams.

Workstream 1: Realist Synthesis Evaluation will be undertaken, bringing together literature that identifies the effective processes of Integrated Neighbourhood Teams and which will support the development of programme theory.

Workstream 2: (a) One semi – structured telephone interview will be conducted with managers and operational staff within the Integrated Neighbourhood Teams (n=80) with a further 10 interviews being undertaken with commissioning and provider staff also. The 'Realist Synthesis Evaluation' framework of context, mechanisms and outcomes (CMO); and existing research regarding integrated care will inform the research questions expressed in the semi – structured interview topic guide. Specific questions will concentrate on job role, skill mix, processes of assessment, facilitators to cross – sector relationships, structural integration, changes in user quality of life, and reductions in unnecessary secondary and community service use.

Workstream 2: (b) Process Mapping Exercise will be conducted with operational staff who will be invited to map the process of their Integrated Neighbourhood Teams and to

share and discuss their thoughts on the aim, population, process, and barriers and facilitators to integrated working. Actions and decisions will be notated to form an overall process map of activity, along with a cause-and-effect fishbone diagram to emerge barriers to integrated care.

Workstream 3: Self – completion Structured questionnaires. In exploring the impact of integration, the views of service users will be sought through a self – completion structured questionnaire. To evaluate and quantify if a change in outcomes has taken place for service users, there will be one base-line and one follow-up (four months) self-completion structured questionnaire with the same sample of service users. In the administration of the base-line questionnaires, the Integrated Neighbourhood Teams staff will support this. Whilst the programme theory will guide the content of the structured questionnaire, there are a number of validated tools that could be used. Each will be selected to measure change in health-related quality of life, social care quality of life, loneliness and social isolation and care outcomes (changes in service use). Appropriate hierarchical linear regression will be carried out to assess the relevant changes in outcomes and the differences between each programme.

Perceived Outcomes:

It is likely that this project will generate strong local non-academic impact in ensuring support and guidance to the Lincolnshire Integration agenda. Findings will be likely to inform - amongst other areas - the structure of the Integrated Neighbourhood Teams, their workload, the skill mix, training and assessment processes. Such guidance will improve practice and outcomes, supporting service users (older people) to remain independent. In addition, the written outcomes (particularly any programme theory) will be fed into core government departments and NHS England.

Contact for further information:

Dr Janet Walker – jwalker@lincoln.ac.uk

Thomas George – tgeorge@lincoln.ac.uk

Prof Mo Ray – mray@lincoln.ac.uk

2.4.12. *Title of the research:* Ethical issues in self funded care: co-producing knowledge with older people

Funding body: The Wellcome Trust

Status of the study: Commencing Autumn 2016

Chief investigators and co-investigators: Dr. Lizzie Ward (Brighton University), Dr., Denise Tanner (Birmingham University), Prof. Mo Ray (Lincoln University),

External collaborations: Established external collaborations include: Age UK, Brighton and Hove and the development of collaborations with other local organisations is integral to the project.

Brief outline: The number of older people funding their care has increased within the context of transformations in statutory social care, the impact of austerity and cuts to social care funding. There is little research on self-funded care, despite its significance to policy and practice. Older people's perspectives are marginalised in policy and practice, which are dominated by managerial concerns of resource allocation and service provision, and in research, where their voices are largely absent. This study takes an innovative approach to researching self-funding through 'co-production' with older people and knowledge exchange with key stakeholders. It is a collaboration between academics, social care commissioners, providers, practitioners and older people in three research sites. It will illuminate ethical dimensions of self-funded care by bringing older people's lived experiences to the fore and contextualise these by seeking the views of care services' commissioners and providers and family/friends who support older self-funders.

The key goals are to:

- Understand older people's experiences of self-funding.
- Develop theoretical understanding of the ethical issues involved in self-funded care.
- Engage with older people, practitioners, health and care services' commissioners and providers to transform understanding of self-funded care and produce accessible outputs to impact policy and practice.

Perceived outcomes. As well as conventional outputs, including publications in peer reviewed journals and papers at relevant academic conferences, we will develop creative outputs to enhance and increase the impact of the study and its findings. For example, resources and materials in a variety of formats to inform older citizens about the implications of self-funding; clear messages, targeting a range of audiences, about the implications of self-funding for policy and practice. Outputs could include: blogs, podcasts, media coverage, research summaries, policy briefings and audio-visual material. The expected outcomes of the research will address three core areas:

- a. Policy and practice in self-funded care.
- b. Academic and theoretical knowledge.
- c. Co-production and knowledge exchange

For further information: Prof Mo Ray – mray@lincoln.ac.uk

2.4.13 *Title of the research project:* The Ageing of British Gerontology: Learning from the past to inform the future

Funding body: The Leverhulme Trust

Status of the study: in process – completion July 2017

Investigative Team: Prof. Mim Bernard and Dr. Jackie Reynolds (Keele University), Prof. Mo Ray (Lincoln University)

External Collaborations: British Society of Gerontology; Centre for Policy on Ageing.

Brief outline and perceived outcomes: This unique mixed-method study, involving interviews with senior figures in British gerontology together with an examination of the archives of the British Society of Gerontology, looks critically at the evolution of gerontological research, theory and practice, over the last 40-50 years. It charts the growth of gerontology as an inter- and multi- disciplinary field; illuminates and learns from the experiences and motivations of people who have been fundamental to its growth and development; and considers what these understandings might mean for future generations of colleagues interested in studying, and responding to, the challenges of population ageing.

We anticipate that the study will be of interest to – and have impacts on – a range of academic, professional and lay audiences interested in the challenges and opportunities of population ageing in the UK and elsewhere. In terms of academic impact, it has the potential to advance our scientific understanding of ageing across disciplines by critically examining and possibly reframing developments in gerontological theory, methods and applications. The study will enable us to articulate the part that British gerontological thought and expertise has played in the international gerontological research community and, in so doing, may suggest future directions for research (including research on more specific areas, topics or themes), for interdisciplinary and for international collaborations. It might also serve as a model of a study of a field which could be adopted by researchers in other disciplines and, by involving career young research associates, the study will directly contribute to capacity building in gerontology. The outputs to be hosted on the BSG's website will also enable us to support the learning and scholarship of new gerontologists more broadly. In terms of social impacts, we expect the study to generate new insights into ageing from the personal perspectives of senior gerontologists, and our proposed public engagement activities (including the exhibition, book, DVD and use of our institutional/professional websites and linked social media) are designed to encourage debate and reflection on ageing and its place in contemporary society. *Contact for further information:* Prof Mo Ray – mray@lincoln.ac.uk

3. Research capacity building

We strive to enable our researchers to achieve their highest potential through a research environment that encourages cooperation, collaboration and mutual support. CaHRU and LIH do this by holding seminars to help build research capacity and capability including Scientific methods seminars and offering opportunities for researchers to present their research. We also operate a supportive peer support group to critically review potential publications and research bids.

In November 2015, we co-hosted an EMRAN seminar on the topic of 'Care of Older People in the Community'. Here, we welcomed around 35 delegates from different backgrounds across the East Midlands.

4. Acknowledgments

We are grateful for the assistance of the research active staff and students at the University of Lincoln; our external collaborators and researchers who have contributed to this brochure.