ARC Wessex Research Portfolio

June 2022
Contents

Introduction
Welcome from Professor Alison Richardson
Ageing and Dementia
Healthy Communities
Long Term Conditions
Workforce and Health Systems
Our Internships
Professor Alison Richardson is Director of ARC Wessex

"I head a team of talented researchers at ARC Wessex looking at a wide range of health issues affecting people in our region.

This document demonstrates the great research we have been working on over the last couple of years and how we hope to integrate findings as they emerge into real world health and care systems in Wessex.

We have focussed on the health and care challenges facing our region including ageing and dementia, long term conditions, public health, workforce and health systems."

NIHR Applied Research Collaboration Wessex (ARC Wessex) supports applied health and care research that responds to, and meets, the needs of our local populations and health and care systems.

We are one of 15 ARCs across England, part of a £135 million investment by the NIHR to improve the health and care of patients and the public.

The ARC Wessex programme of research addresses four areas related to the health and social care needs of our community: Ageing and Dementia, Long Term Conditions Healthy Communities and Workforce and Health Systems.

NIHR ARC Wessex is acting as the national lead on research for Ageing, Dementia and Frailty.

This document lists the research projects undertaken by ARC Wessex as it enters its third year of a five year programme of research.
Our Ageing and Dementia theme

Jackie Bridges is Professor of Older People’s Care at the University of Southampton and leads our focus on Ageing and Dementia.

“Ageing and dementia are two of the most pressing needs of our community. Our research aims to help people age well and live rewarding lives by tackling the health and care challenges older people face.

It is only by examining and understanding those challenges that we can tailor support and care to meet those needs”
**Funding**

**Core:** Project has been funded by ARC Wessex

**Chief Investigator**

Professor Chris Kipps – University Hospital Southampton, University of Southampton.

**Project Team Members**

Dr John Spreadbury – University of Southampton.

Dr Sarah Fearn – University of Southampton.

**Organisations Involved**

University Hospital Southampton NHS Foundation Trust, University of Southampton, NIHR CRN Wessex, Neurological Alliance, Hampshire Isle of Wight Integrated Care System (ICS).

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**What problem is the project looking to solve and how is it going about solving it?**

Covid-19 has changed the way we deliver care – the My Medical Record online care platform, offers an opportunity for remote care to support and maintain quality of care delivery.

Digital technology has the potential to help reduce variation in care, make care more personal, improve integration of care, identify people with higher risk of a poor outcome and promote self-management. Digital care can support clinicians to be more efficient, freeing up time for the sickest patients. The use of digital care has significantly accelerated during Covid.

My Medical Record (MyMR) platform is an online care platform, which offers patients more control over their healthcare. Using MyMR, patients can: Access their clinical letters and appointments in one place, message their clinical teams for advice, read clinically relevant information on their condition and monitor and share outcomes.

There are now 70,000 patients enrolled on My Medical Record (MyMR), and the platform is being further rolled out to support care pathways across the Hampshire and Isle of Wight region. Despite this expansion, use at an individual level, amongst patients with long-term neurological conditions, including dementia, and their treating clinicians, has been variable.

Our research aims to better understand this variation in order to maximise the uptake, use and usefulness of MyMR for people with long term neurological conditions.

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**What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?**

Normalisation process theory (NPT) helps structure our understanding about factors that may promote, or act as a barrier to, an intervention or new way of working becoming a routine part of care.

Components of NPT:

1. ‘Coherence’ (sense-making) factors: ‘Attitudes’ To understand attitudes towards digital care in general and the MyMR digital care platform for existing users and potential users
2. ‘Cognitive participation’ (engagement) factors: ‘Profiles’ To identify patient characteristics that influence use, including those which may lead to digital health inequality or exclusion in our population
3. ‘Collective action’ (work to enable the intervention to happen): ‘Strategies’ To use data from Work Packages 1 and 2 to create and assess strategies to optimise user skills, knowledge, and engagement
4. ‘Reflexive monitoring’ (opportunities for feedback) factors: ‘Evaluation’ To investigate how additional support, opportunities for feedback, and outcome monitoring can promote use

We will use the four components of NPT above to structure three key work packages (WP). In WP1 we will interview patients and healthcare professionals to understand the current attitudes to digital technology, surveys in WP2 will identify key characteristics of digital users and non-users and through a series of co-production workshops in WP3, we will design and develop engagement strategies.

This study will:

- Inform the future design of engagement and optimisation strategies for digital care
- Define best ways of delivering digital care so that it is useful
- Refine the use case for such systems across neurological and other conditions
- Support the long-term viability of My Medical Record, and other digital platforms

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**Project Status**

Ongoing.
What problem is the project looking to solve and how is it going about solving it?
The use of e-health platforms is expanding rapidly, but their promise of more efficient and effective healthcare will not be realised if the user experience is poor and people fail to use them, or if their success is measured through outcomes which do not reflect service-user value.

An initial step is required to understand the current range of e-health platforms and their use by patients and carers. A comprehensive literature review has been undertaken to identify the range of digital tools in use across neurological conditions and neurodegenerative diseases. The literature review has identified a range of available tools which facilitate self-management, their underlying functionality and salient clinical outcomes.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
The literature review has highlighted important factors that will inform areas of improvement around digital health tools including user-friendliness, interactivity, design principles, and information provision with relevance to a range of long-term conditions.

The review has indicated two key areas of consideration,
• the overall availability and use of digital technology in neurological conditions and
• the specific use of e-health tools in people with dementia and their carers.

From the review across neurological conditions, it has been possible to classify interrelated functionality of available tools into 5 broad categories
• Knowledge and understanding
• Behaviour modification
• Self-management support
• Facilitating communication
• Recording condition characteristics

This analysis of the literature will facilitate our ongoing dementia research and support continuous digital data acquisition for clinical outcomes and research purposes. It will also enable us to investigate the efficiency and potential of a new paradigm of clinical care for Younger Onset Dementia and Huntington’s Disease service users.
Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Professor Chris Kipps – University Hospital Southampton NHS Foundation Trust

Project Team Members
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Ms Veena Agarwal – University of Southampton
Mrs Sandra Bartolomeu Pires – University of Southampton
Professor Helen Roberts – University of Southampton
Ms Rachel Chappell – University Hospital Southampton NHS Foundation Trust

Organisations Involved
Parkinson’s UK, Epilepsy Action, MS Society, Huntington’s Disease Association, Motor Neurone Disease Association, Hampshire Neurological Alliance.

What problem is the project looking to solve and how is it going about solving it?
Many neurological conditions have a long-term impact on quality of life with fluctuating requirements for intervention and care over time. This has the potential to create a mismatch between the needs of patients at particular stages in their illness, the skill levels of clinicians and available resources required to assist them appropriately. With an increase in the number of people with neurological conditions referred for outpatient services, and the increasing potential for digital or remote care to support outpatient care, it is essential to better understand how patients can be better matched to the right services at the right time.

The Neuro LTC research project aims to identify factors that influence everyday care needs (baseline factors) and critical events that have the potential to lead to an increase in care. We focus on five conditions: epilepsy, Huntington’s disease, motor neurone disease, multiple sclerosis, and Parkinson’s disease (PD).

The study completed recruitment in December 2021. Over 1,700 patients with neurological conditions and carers took part, either completing a survey or in a focus group. Our first paper, which focussed on the critical events that led to an increase in care, was published at the end of 2021. We also developed an impact inventory (published in abstract form) to model pathway costs from this data. We are now focussing on identifying baseline factors and critical events across all five conditions and on factors that promote well-being and reduce care needs.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
It is important to understand what factors affect care needs in people with long-term neurological conditions in order to better match service users with appropriate levels of care, both clinical and social.

In addition to well-recognised cases of crisis such as falls, events less widely associated with crisis were identified including difficulties with activities of daily living (ADLs) and carer absence. These triggers tend to be managed more frequently in the community, and often had a greater impact on care needs than events that required hospital care. People with PD and their carers had good general knowledge of potential crisis triggers such as falls, but carers were more likely to identify problems with cognition and medication. These findings will help inform educational and self-management programmes and are being incorporated into the development of digital healthcare tools (including My Medical Record at University Hospital Southampton).

We were able to model the costs of care using an impact inventory that identified the clinical and social care costs associated with events that occur in Parkinson’s disease. This will be tested in a digital pathway to see whether managing care digitally is cost-effective.

As data analysis continues, findings will be shared with third sector organisations who will be able to incorporate the findings into their work, particularly in the area of well-being factors that reduce or minimise care needs.

Links to further information/publication:
The first journal article from the study focuses on the causes and impact of crisis for people with Parkinson’s:
https://content.iospress.com/articles/journal-of-parkinsons-disease/jpd212641

Project Status
Ongoing.


**Material Citizenship Framework Project**

**Funding**

*Adopted:* Project is funded elsewhere but supported by ARC Wessex.

**Chief Investigator**

Professor Jackie Bridges – University of Southampton.

**Project Team Members**

Dr Kellyn Lee – University of Southampton
Mrs Zoe McCallum – Brendoncare
Dr Jane Frankland – University of Southampton
Ms Leah Fullegar – University of Southampton

**Organisations Involved**

Brendoncare Foundation, ESCR Impact Acceleration Account, Alzheimer’s Society, Hallmark Care.

**What problem is the project looking to solve and how is it going about solving it?**

Moving into a care home is a significant and often life changing transition. Everyday objects can make this easier. Whilst it is widely believed that care homes encourage new residents to bring personal possessions with them, a recent study found this not to be the case. Only certain objects are encouraged in care homes and people with dementia are often excluded from deciding which objects they take with them. Material citizenship is a conceptual framework that focuses on the interactions people have with objects, for example, access to a preferred coffee cup or being able to use a hairdryer or a pair of hair straighteners. Material citizenship emphasises the use of objects as way of enabling staff to support residents live a meaningful life.

We collaborated with Brendoncare to develop a training programme to educate staff on the importance of objects in everyday life and how to include objects in care assessments and care planning. The training programme was developed as an online skills enhancement programme. It was delivered to staff in five care homes. Care home staff were interviewed to gain an understanding of how they found the educational programme, how confident they are working with a material citizenship approach, whether they think it improves the care they deliver, and the conditions needed to work with a material citizenship approach. We have completed the interviews and are analysing the data.

**What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?**

This research will help us understand what changes might be needed to get organisations ready to reimagine care home life. It will also mean we can identify which staff are more likely to adopt this way of working. This will likely benefit care organisations in recruiting staff who can work in a complex care environment whilst still providing person centred care.

The Brendoncare Foundation and Hallmark Care are rolling out Material Citizenship to all of their care homes during 2022 and other providers in the care home sector are interested in signing up. Dr Kellyn Lee has now set up Wiser Health and Social Care, a social enterprise and Wiser is licensed to use Material Citizenship in care home and domiciliary care.

**Links to further information/publication:**

[Material Citizenship: An ethnographic study exploring object–person relations in the context of people with dementia in care homes - Lee - 2021 - Sociology of Health & Illness - Wiley Online Library](https://onlinelibrary.wiley.com/doi/abs/10.1111/1467-9566.12825)

Short training films on material citizenship can be found [here](https://www.youtube.com/watch?v=QzQvRyGtUzk).

A Guardian Society feature on our work can be found [here](https://www.theguardian.com/society/2021/jul/08/material-citizenship-care-homes-personal-property).

**Project Status**

Ongoing.
that busy nurses can miss information about how needs. Sometimes they have felt left out or were involved in planning care to meet their needs. Care has been very good, and they with dementia, people with learning disabilities and stroke survivors have been engaged in nursing care decisions in hospitals. We will work with people living with dementia, people with learning disabilities, stroke survivors and nursing staff to develop this work. We will plan together how to develop and try out new ways of working in hospital and ask for research funding to do this.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

1. Our review of the research will give us ideas about how people living with dementia, people with learning disabilities and stroke survivors have been engaged in nursing care decisions in hospitals. We will share these with other people including healthcare workers. This may lead to improved hospital care.

2. We will complete short films about experiences of care with people living with dementia, people with learning disabilities and stroke survivors. These will be used in future research to improve care in and training healthcare students. This will help healthcare students to include people living with dementia, people with learning disabilities and stroke survivors in care decisions to improve care.

3. We are working out good ways to include people with profound cognitive impairments in research and healthcare decisions. We will share these with healthcare students and researchers and use them in our future research.

4. We will apply for further research funding to develop ways to improve the inclusion of people living with dementia, people with learning disabilities and stroke survivors in nursing care decisions in hospitals. We will develop this with nursing staff, people living with dementia, people with learning disabilities and stroke survivors. We will write a grant application to develop this and test it out. If this is funded and works it will improve hospital care for people living with dementia, people with learning disabilities and stroke survivors.

Links to further information/publication:


Our relevant research cited above:


Project Status
Ongoing.
‘StOP UTI’

Strategies for Older People living in care homes to prevent Urinary Tract Infection: a realist synthesis of the evidence

**Funding**

**Adopted:** Project is funded elsewhere but supported by ARC Wessex

**Chief Investigator**

Dr Jacqui Prieto – University of Southampton

Professor Heather Loveday – University of West London

**Project Team Members**

Professor Jennie Wilson – University of West London

Mrs Alison Tingle – University of West London

Mrs Jennifer Bostock – Patient and Public Involvement Contributor based in England

Mr Simon Briscoe – University of Exeter

Dr Lynne Williams – Bangor University

Dr Melanie Handley – University of Hertfordshire

Professor Jo Rycroft-Malone – University of Lancaster

**Organisations Involved**

We have included stakeholders from a wide range of organisations in our project through stakeholder workshops and interviews, and as part of our project advisory group.

**What problem is the project looking to solve and how is it going about solving it?**

We have undertaken a realist synthesis of existing research evidence to identify evidence-informed strategies (programme theories) that are effective in preventing older people in care homes from acquiring a urinary tract infection (UTI) or catheter-associated urinary tract infection (CAUTI). The project is funded by the National Institute of Healthcare Research Health and Care Technology Assessment Programme.

The occurrence of UTI increases with age and is highest among those living in care homes. Several factors predispose older people to UTI and resistance to the antibiotics commonly used to treat UTI is now common. UTIs caused by resistant bacteria are more likely to spread to the bloodstream and may cause sepsis. One third of admissions to hospital from care homes are due to UTI and rates of emergency admissions to hospitals have increased markedly since 2001. However, guidance about strategies for preventing UTI/CAUTI in care homes is limited and does not account for the varying contexts in which care is delivered or the challenges presented by residents with complex health needs and limited workforce resources. Systems that support early recognition of UTI by care home staff are critical to driving improvements in UTI prevention and minimising over-diagnosis of UTI.

Our research questions are:

- Preventing urinary tract infection (UTI) among older people with or without urinary catheters living in care homes: what works, for whom, why and in what circumstances?

- What are the contextual factors and mechanisms that enable interventions designed to support the prevention and recognition of UTI?

**What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?**

We have developed ten evidence-informed programme theories, which focus on effective strategies for preventing and recognising UTI in older people in care homes. These provide unique recommendations that are relevant for care home settings, which we believe can be incorporated into policy, guidance and educational programmes to help reduce the incidence of UTI, recurrent UTI and CAUTI.

**Links to further information/publication:**

https://www.southampton.ac.uk/stoputi/about/index.page

**Project Status**

The project completes in 2022.
DONOR – Digital cOachiNg fOr fRainty

Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Professor Jane Murphy – Bournemouth University

Project Team Members
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Dr Michele Board – Bournemouth University
Dr Kat Bradbury – University of Southampton
Professor Mike Vassallo – University of Southampton
Dr Simone Yule – Dorset CCG
Dr Dawn-Marie Walker – University of Southampton
Ms Crystal Dennis – Dorset CCG
Dr Sarah Thomas – Bournemouth University
Dr Patrick Moore – The Adam Practice
Ms Kathy Wallis – Wessex AHSN
Ms Susan Dowdle – Dorset HealthCare University NHS Foundation Trust
Mr Mark Allen-Pick – University Hospitals Dorset NHS Foundation Trust

Organisations Involved
Bournemouth University, University of Southampton, University Hospitals Dorset NHS Foundation Trust, The Adam Practice, Dorset CCG, Wessex AHSN, Southern Health NHS Foundation Trust, Dorset Healthcare University NHS Foundation Trust, Help and Care.

What problem is the project looking to solve and how is it going about solving it?
Frailty is a condition that affects one in ten people over the age of 65. It means people are at higher risk of falls, disability and poorer quality of life. Some may struggle with decreased energy levels, poor appetite, lower strength and having difficulty with household tasks such as shopping and cooking. As the population ages, frailty also impacts on health and social care services because of more GP appointments and increased hospital and care homes admissions. More people own a smartphone with applications (apps) and have access to the internet. This technology can help people to live well by enabling access to person-centred advice and care. It can help share in decision-making to meet well-being and health needs and reduce the burden on health and social care. However little research has been done, particularly for people with frailty, living at home.

Aims
This study aims to explore whether a digital approach could be used alongside support from health coaches to help the lifestyle management of frailty (in its early stages). The approach has been used across the NHS in people with long term conditions which we think will transfer to people with frailty. We will work together with people living with frailty, their carers, health coaches and health care professionals (key stakeholders).

Design and methods
We will do this through two work-packages (WPs) with people from 2 areas in Wessex (Dorset and Hampshire). WP1 will develop and test a new digital approach. It will include interviews with 10 people with frailty and family carers, 20 health care professionals and health coaches. In WP2, we will train health coaches to use the digital approach and measure how well it works in people with frailty.

We will collect data including physical activity, eating and drinking, social engagement, quality of life, frailty status, costs of the approach. We will also ask people about their experiences of using it. We aim to recruit 20 people with frailty and their carers, 20 health coaches, 20 health care professionals and commissioners of care services from both areas to do this. This information will help us plan for carrying out a larger study to implement the approach wider across Wessex. We will regularly seek advice from doctors, nurses, commissioners of services during the project.

Project Status
Ongoing.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
Through early intervention and support, the findings from this project will be used to improve the quality of lives of our ageing population to help older people remain independent for longer and thus reduce the need to access health and social care services i.e., transform ageing to take a ‘proactive’ rather than ‘reactive’ approach. It will give older people more control over their own health and care they receive and personalised care, by providing digital access to services and health information with the support of a health coach to achieve their health goals and outcomes. The project is innovative by ‘doing things differently’ to bring together more collaboration between GPs, teams and community services working with local partners as an integrated care service across health and social care.

The project will produce outputs including new feasibility and acceptability data alongside new training, preliminary resource costs, barrier and enablers for implementation. We will engage with the Wessex Academic Health Science Network to help guide implementation to facilitate wider uptake, adoption and spread, integrating with current systems across Wessex.

Links to further information/publication:
https://www.bournemouth.ac.uk/research/projects/donor-digital-coaching-frailty
Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Dr Kat Bradbury – University of Southampton

Project Team Members
Professor Helen Roberts – University of Southampton
Dr Max Western – University of Bath
Dr Stephen Lim – University of Southampton
Linda Du Preez – Wessex AHSN
Fay Sibley – NHS England
Dr Judith Joseph – University of Southampton
Professor Lucy Yardley – University of Southampton
Dr Chloe Grimmett – University of Southampton
Dr Neil Langridge – University of Southampton
Christian Brookes – University of Southampton
Helen Fisher – Energise Me
Cynthia Russell – Patient and public contributor
Asgar Electricwala – Patient and public contributor
Tom Stokes – Patient and public contributor
Professor Maria Stokes – University of Southampton
Dr Paul Clarkson – University of Southampton
Cherish Boxall – University of Southampton
Dr Katherine Morton – University of Southampton
Sara Bolton – NHS England
Dr David Attwood – Pathfield Medical Group for David Attwood

Organisations Involved
Southern Health NHS Foundation Trust, Dorset County Hospital NHS Foundation Trust, Oxford Health NHS Foundation Trust, Wessex AHSN, University of Southampton, NHS England, Energise Me, Active Partnerships, Live Longer Better.

What problem is the project looking to solve and how is it going about solving it?
Many older adults are physically inactive and experience health problems which could be prevented/improved if they were to increase their activity. These problems are costly to individuals, the NHS and social care services. An effective support for increasing physical activity which is easy and cheap to deliver at scale is needed. Older adults are the fastest growing group using the web, so a digital tool could be a solution. In our previous work, we developed a website called ‘Active Lives’ which helps older adults to increase physical activity and maintain this long-term.

Active Lives is a promising tool that could be rolled-out at scale. However, there can be challenges to rolling out new digital tools. We will also seek to understand barriers and facilitators to roll-out by interviewing those who implement Active Lives in practice.

Project Status
Ongoing.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
We aim to discover
1) How many people can be reached with Active Lives.
2) Whether we are able to reach people from different backgrounds (e.g. education level, ethnicity).
3) How individuals use the website and whether they report increases in activity over time.
Creating Learning Environments for Compassionate Care (CLECC) in Mental Health Settings: An implementation study

Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Dr Michelle Myall – University of Southampton

Project Team Members
Professor Jackie Bridges – University of Southampton
Ms Cindy Brooks – University of Southampton
Dr Sarah Williams – Solent NHS Trust
Dr Jane Frankland – University of Southampton

Organisations Involved
Solent NHS Trust, Southern Health NHS Foundation Trust, NHS Improvement, Wessex AHSN, University of Southampton

What problem is the project looking to solve and how is it going about solving it?

There is some public concern about NHS hospital nurses’ capacity to provide compassionate care, but very little research about how to improve this situation. We have developed and piloted a programme called Creating Learning Environments for Compassionate Care (CLECC). In CLECC, all registered nurses and health care assistants from participating wards attend a study day, with a focus on team building and understanding patient experiences. A nurse educator (who is not usually part of the ward team) supports the team to try new ways of working on the ward, including regular supportive discussions on improving care. Ward managers attend learning groups to develop their leadership role. Volunteer team members receive training in observations of care and feeding back information to colleagues.

This study will follow nursing teams in mental health hospital settings who are using CLECC for the first time. We will use questionnaires, staff interviews and documentary evidence to gather data on the characteristics of organisations and teams, and the factors that influence CLECC’s progress in the first few months. We will look carefully at these data, working out the connections between the characteristics, the influencing factors and what happens when CLECC is used. We will develop a theory about how different organisational conditions affect the journey of programmes like CLECC. We will also use the study to test the best way to measure the impact of CLECC on staff well-being.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

This research will help us understand what changes might be needed to get organisations ready for using CLECC. It will also mean we can identify in advance teams who are likely to benefit from CLECC, improving its value for money. We will use the findings to develop a guide for hospital managers to assess and improve their organisations and teams for their receptiveness to quality improvement activities like CLECC. We will share our findings with a wide range of people including patients and families, NHS managers, health and social care staff and other researchers. We will also present at conferences and publish in peer reviewed academic journals.

Links to further information/publication: https://implementationscience.biomedcentral.com/articles

Project Status
Ongoing.
Investigating Quality of Care for People with Dementia Undergoing Cancer Treatment in Ambulatory Care (ImPaCT)

Funding

Adopted: Project is funded elsewhere but supported by ARC Wessex

Chief Investigator

Dr Naomi Farrington – University Hospital Southampton NHS Foundation Trust and University of Southampton

Project Team Members

Professor Jackie Bridges – University of Southampton

Professor Alison Richardson – University of Southampton and University Hospital Southampton NHS Foundation Trust

Organisations Involved

University Hospital Southampton NHS Foundation Trust, University Of Southampton (Funded as part of a HEE/NIHR Clinical Lectureship)

What problem is the project looking to solve and how is it going about solving it?

There is not much information about people with dementia having cancer treatment. This study aims to understand how high quality care can be provided for people with dementia undergoing outpatient cancer treatment (radiotherapy, chemotherapy or other anti-cancer treatment). The study uses a research method called ethnography, which is where a researcher conducts ‘fieldwork’ to study a group of people to better understand that group. It will look at:

- The environment (surroundings and conditions) of the outpatient clinics and treatment areas
- How people in the outpatient clinics and treatment areas behave and interact with each other
- How treatment and support is organised in the outpatient clinic and treatment areas

Fieldwork will take place in the outpatient departments of University Hospital Southampton NHS Foundation Trust. It will include observations, interviews and review of patient notes. The people who will be invited to take part in the study are:

- People with dementia having cancer treatment
- Friends or family supporting people with dementia having cancer treatment
- Staff involved in the care of people with dementia having cancer treatment (doctors, nurses, support workers, administrative staff, and others)

Project Status

Complete.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

The three methods of data collection will help the researchers put together a detailed picture of the outpatient setting including how people act (behaviour), the surroundings and conditions (environment), and the way treatment and support is organised (processes). This will reveal ways in which healthcare organisations might best provide cancer treatment for people with dementia that is person-centred (focused on the needs of the person themselves) and of a high quality.

Exploring the relationship between health system responsiveness and the implementation of person-centred integrated care for older people with frailty

Funding

PhD: The project is led by an ARC Wessex funded PhD student

Chief Investigator

Mr Samuel Alugsi – Bournemouth University/ Southern Health NHS Foundation Trust

Project Team Members

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Dr Caroline Ellis-Hill – Bournemouth University

Dr Abigail Barkham – Southern Health NHS Foundation Trust

Dr Euan Sadler – Southern Health NHS Foundation Trust

Organisations Involved

Bournemouth University (funding), NIHR Applied Research Collaboration (funding), Southern Health NHS Foundation Trust (funding).

What problem is the project looking to solve and how is it going about solving it?

This is an ongoing project which seeks to help make health care systems more responsive to meet the care and support needs of older people living with frailty. It employs a qualitative evidence synthesis and an ethnographic case study to look at the lived experiences of older people with frailty, their family carers and health professionals in the delivery of person-centred integrated care and the pursuit of health systems responsiveness. It will finally construct a framework to improve the implementation of person-centred integrated care for older persons with frailty.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

This project will identify and synthesise a multi-perspective view of the issues affecting the delivery of person-centred integrated care for older person with frailty. The findings will in particular:

1. Influence health care policy related to person-centred integrated care for older people.
2. Generate practice recommendations to improve the delivery of integrated care services that can better respond to the changing care and support needs of older people with frailty.
3. Generate evidence that can potentially contribute to improving quality of care and patient experience for older people with frailty, which could have wider transferability to other patient groups.

Project Status

Complete.
What problem is the project looking to solve and how is it going about solving it?

This project addresses the importance of physical activity and nutrition in older people. Older adults living with frailty who are admitted to hospital are at high risk of deconditioning. The decline in their physical function will lead to reduced independence and poorer quality of life.

Physical activity and nutrition are important aspects in the management of frailty. Supporting older adults to maintain an active lifestyle and to eat well following an acute illness can help them in their recovery process.

The Frail2fit study will explore the feasibility and acceptability of a novel exercise and nutrition intervention led by trained volunteers. Volunteers will be trained to lead group exercises and provide support to encourage older adults to eat well. They will also receive behaviour change training to support the lifestyle change in older people.

The 12-week intervention will be conducted online. Older adults will be recruited during their hospital stay. The intervention will commence upon discharge. Participants without internet access and computer/tablet at home will be provided with a tablet with data allowance.

Project Status

The project is still undergoing ethical approval and is anticipated to commence in June or July 2022.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

At the end of the project, we will know if this novel intervention is feasible to be delivered to frail older adults. We will also learn about the feasibility of delivering digital interventions for older people. We will explore the acceptability of the intervention to older people, their family members/carers and the volunteers. The study will help us better understand the facilitators and barriers to the intervention which will support a future implementation study.

Encouraging older adults to eat well and keep active is important to prevent and to manage frailty. A key priority of the NHS Long Term Plan is to support people to age well. Developing interventions/services that support older adults in the community and the use of digital technology are strategies identified to meet the objectives of the NHS Long Term plan. If shown to be feasible, the next steps will be to examine the effectiveness of the intervention in improving patient and health-related outcomes.
Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
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Ms Samantha Agnew – Brendoncare
Dr Samantha Meredith – University of Southampton

Organisations Involved
University Hospital Southampton NHS Foundation Trust, University Of Southampton, Southern Health NHS Foundation Trust, The Brendoncare Foundation

What problem is the project looking to solve and how is it going about solving it?
Physical activity is important for older adults and studies have shown the benefits of physical activity on health outcomes including maintenance of physical function, improvement in well-being and quality of life, and reduction in mortality risk. A recent report on physical activity guidelines published by the Department of Health and Social Care highlighted the importance of physical activity in healthy ageing. Nonetheless, current evidence suggests that less than 7% of community-dwelling older adults meet the recommended physical activity guideline of 150 minutes of moderate vigorous physical activity per week.

A review of current literature suggests some evidence that volunteers can be trained to deliver physical activity interventions for community-dwelling older people. Yet few studies have been conducted in the UK, and there is a knowledge gap in understanding the facilitators and barriers of training volunteers to deliver physical activity interventions for community-dwelling older people.

This study aims to explore the feasibility and acceptability of implementing volunteer-led online exercise classes for older people attending community clubs. We aim to develop and evaluate a training programme for volunteers, determine the acceptability of the intervention through qualitative methods and identify facilitators and barriers to its implementation. We will also explore the impact of the intervention on health outcomes for older people to inform future trial.

We have completed recruitment and data collection for this study and are currently in the process of completing data analysis.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
At the end of the project, we anticipate the following outcomes:

I) Development of a volunteer training programme for the exercise intervention for community-dwelling older adults.

II) Better understanding on the feasibility of training volunteers to deliver the group online exercises for older people.

III) Acceptability of the intervention to volunteers and older adults, and identification of facilitators and barriers to the intervention.

Whilst this study is not powered to show statistically significant difference in health outcomes, we will explore the impact of volunteer-led exercise sessions on the physical activity levels and functional outcomes of older adults. Findings from this study will help inform a future trial to determine the effectiveness of the intervention on health outcomes for older people.

Links to further information/publication:
Lim SER, Meredith S, Agnew S, et al
Evaluating the feasibility and acceptability of virtual group exercise for older adults delivered by trained volunteers: the ImPACt study protocol
BMJ Open 2022;12:e052631

Project Status
Ongoing
The PD (Parkinson’s Disease) Life Study – Exploring the treatment burden and capacity of people with Parkinson’s and their caregivers

What problem is the project looking to solve and how is it going about solving it?

The PD Life Study aims to explore treatment burden and capacity among people with Parkinson’s (PwP) and their caregivers and identify potentially modifiable factors. Parkinson’s is a common progressive neurological disorder affecting approximately 145,000 people in the UK. PwP have many symptoms including tremor, stiffness, slow movement, bowel and bladder problems, and mental health issues. They are often older and have other long-term health conditions. PwP need to do many things to look after their health (treatment burden) such as take multiple medications, attend healthcare appointments, and make lifestyle changes such as diet and exercise. The ability (capacity) to manage this can be influenced by physical, mental, social, and economic factors. People who feel overburdened may have poor adherence to treatment, poor quality of life and worse health outcomes.

This ongoing study consists of four work packages. Firstly, we conducted a systematic literature review of published papers to understand the experiences of treatment burden in Parkinson’s. This informed interviews with 17 PwP and caregivers in Wessex to explore their experiences of looking after their health. The third work package explored this further through a national survey with 190 PwP and caregivers conducted with support from Parkinson’s UK. The final work package will consist of focus groups with key stakeholders including PwP, caregivers, healthcare professionals and managers working with the Wessex Parkinson’s Excellence Network. The focus groups will discuss the integrated findings from the previous work packages to develop and prioritise recommendations to improve treatment burden and capacity.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

This study is the first to explore the extent of treatment burden in Parkinson’s and the factors that influence treatment burden and capacity in PwP and their caregivers. This will help us identify PwP and caregivers at risk of high treatment burden who may benefit from patient-centred interventions to reduce their treatment burden or enhance capacity. This could improve both health outcomes and the overall experiences for PwP and caregivers. Key issues of treatment burden and capacity in PwP and caregivers identified from this research relate to dissatisfaction with frequency of appointments, challenges attending appointments, and difficulty accessing healthcare professionals. Obtaining satisfactory levels of information related to Parkinson’s and managing prescriptions and medication also contributed to treatment burden in Parkinson’s.

There may be ways to improve this. For example, at individual provider level, reviewing frequency of healthcare appointments, improving interactions between Parkinson’s service users and healthcare professionals, ensuring adequate information provision, and conducting regular structured medication reviews may reduce the treatment burden for PwP and caregivers. At system level, addressing responsiveness of healthcare systems and improving care coordination and continuity of care between healthcare services may be beneficial. Aspects of capacity may be enhanced by improving health literacy, adapting personal coaching methods to support self-management, and encouraging utilisation of practical strategies such as prescription delivery services, pill devices and reminders to help manage the medication burden. We aim to prioritise recommendations of ways to improve these issues with key stakeholders by the end of the study.

Links to further information/publication:

- Link to published systematic review article: The Experiences of Treatment Burden in People with Parkinson’s Disease and Their Caregivers: A Systematic Review of Qualitative Studies (DOI: 10.3233/JPD-212612)

Project Status

Ongoing.
Our Healthy Communities theme

Julie Parkes is Professor of Public Health, Head of the School of Primary Care, Population Sciences and Medical Education. She leads our Healthy Communities theme.

“The health of people across our communities faces a number of challenges from the start of someone’s life until the end – our research teams are addressing inequalities, diet, domestic violence and a wide range of issues that touch on everyone’s lives; in particular those in more vulnerable and underserved populations.

Public health and care have been under tremendous pressure during the pandemic and those challenges will continue into the future. Research can give us insight and solutions to these challenges.”
Funding

PhD: The project is led by an ARC Wessex funded PhD student

Chief Investigator
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Project Team Members
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Associate Professor Ryan Buchanan – University of Southampton
Dr Kinda Ibrahim – University of Southampton
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Organisations Involved
University of Southampton, University Hospital Southampton NHS Foundation Trust

What problem is the project looking to solve and how is it going about solving it?

Liver scarring (known as cirrhosis) is a frequent and ever more common reason for dying in the United Kingdom (UK). The most common cause of liver scarring in the UK is alcohol. Death from liver scarring can be prevented if liver disease is found at an early stage. This can be hard because many people with liver scarring do not look or feel unwell until they develop liver failure. At this stage it is too late to prevent complications. Alcohol-related liver disease can be found earlier by assessing for it in people who drink too much alcohol. This is advised in national guidelines.

Local pharmacists are one of the most accessible health professionals. There are over 12,000 local pharmacies in England. Lots of these pharmacies are in areas where more people have alcohol problems. Local pharmacists are able to identify people who drink too much alcohol and provide them support to drink less. However, it is not known if local pharmacists can get these people assessed for alcohol-related liver disease.

This project is researching how this could be done by synthesising knowledge from pharmacy alcohol service research and undertaking primary research with key stakeholders. The project will use this research to design a novel intervention that enables local pharmacies to identify people at risk of liver disease due to alcohol and get them assessed for liver disease.

At the end of the project, we will understand the feasibility and acceptability of delivering this intervention and understand how it can be further refined to maximise its utility. The project will also inform the design of a trial to test how effective the service is compared to current practice. We will share the findings of the project, including a description of the intervention so that others might use it.

The collaborative nature of the project will locally have impact through developing novel working relationships between community pharmacy, primary care and secondary care.

The intervention itself could have a significant impact on mortality and morbidity from alcohol-related liver disease as it will offer opportunities outside of other health services to identify harmful drinking (often associated with stigma and late and costly clinical presentation) and provide access to alcohol-related liver disease care pathways.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

This project will produce new understanding of barriers and facilitators to providing alcohol advice services in local pharmacies and understanding of what role pharmacies can have in alcohol-related liver disease.

Subsequently the project will design a novel intervention that enables local pharmacies to identify people at risk of liver disease due to alcohol and get them assessed for liver disease.

At the end of the project, we will understand the feasibility and acceptability of delivering this intervention and understand how it can be further refined to maximise its utility. The project will also inform the design of a trial to test how effective the service is compared to current practice. We will share the findings of the project, including a description of the intervention so that others might use it.

The collaborative nature of the project will locally have impact through developing novel working relationships between community pharmacy, primary care and secondary care.

The intervention itself could have a significant impact on mortality and morbidity from alcohol-related liver disease as it will offer opportunities outside of other health services to identify harmful drinking (often associated with stigma and late and costly clinical presentation) and provide access to alcohol-related liver disease care pathways.

Links to further information/publication:


Project Status
Ongoing.
Healthy Communities

Wessex DIET:
Determining the Impact of covid-19 on food security in young families and Testing Interventions

Funding
PhD: The project is led by an ARC Wessex funded PhD student

Chief Investigator
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Dr Nisreen Alwan – University of Southampton

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Prof Tim Lloyd – Bournemouth University
Dr Marta Disegna – University of Padua
Mrs Ravita Taheem – Southampton City Council
Sally Shillaker – Solent NHS Trust
Fran Richards – Patient and Public Involvement contributor
Mr Duncan House – Southampton City Mission
Sara Crawford – Southampton City Council

Organisations Involved
Southampton City Council, University of Southampton, Bournemouth University, Solent NHS Trust, Southampton Social Aid, The Friendly Food Club, Hampshire County Council, Dorset Council

What problem is the project looking to solve and how is it going about solving it?
This project started in November 2021.
The covid-19 pandemic restrictions are likely to have negatively impacted UK families in many ways, including food insecurity (not having enough food because of cost or other barriers, or not having good quality food). Food insecurity has negative health impacts in the short-term including weight gain, malnutrition, poor mental health; these may lead to longer term health outcomes including obesity, diabetes, anxiety, and depression. Local councils in Wessex have a range of initiatives to help this situation, including food pantries, and recipe boxes.

In this ongoing project, we are collecting data to find out what impact different food aid interventions have on the diet, wellbeing and food security of families in Wessex. All of the primary data collection is informed by ongoing analysis of survey data and the development of small-area estimates of outcomes for adults and children in Wessex: diet quality, food security and wellbeing. Further, we are completing two associated systematic reviews to inform our research in this topic.

We are asking clients of services to complete surveys during a year to monitor how things have changed since they started using the services, if they have. This helps us understand which interventions might support people best. As part of this we are interviewing people involved with the interventions and local government stakeholders to find out what challenges they face, for a process evaluation. A cost benefit analysis identifies which interventions offer best value for money.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
We are exploring the impact of system shocks on food security, diet quality and health in young families across Wessex, using the covid-19 pandemic and lockdowns as an example of such shocks. We are finding out if council-supported food aid initiatives to counter difficulties around adequate and healthy diet are acceptable, well taken-up and impactful in local populations.

This main output from this project is a toolkit that can be used by councils to decide which initiatives are best for their populations. The data collection process, surveys, interview guides and cost benefit analysis all form a tool that is co-developed with local stakeholders and shared with all local authorities who are deciding which food interventions they want to fund locally, as a decision support system.

By supporting the most impactful interventions, councils can address health inequalities efficiently. This is part of the prevention at scale aim in councils across Wessex, and supporting priorities such as Starting Well, Living Well and Investing in Prevention. We have two implementation leads for Hampshire and Dorset councils who are well placed to support dissemination of our research findings as they emerge, and to encourage uptake of the toolkit across Wessex and England.

Project Status
Ongoing.
What problem is the project looking to solve and how is it going about solving it?

This study aims to determine whether visual attention to, and intended purchase of, products in prominent in-store locations differs if the products are healthy, unhealthy or non-food items or a mixture of all three, assessed with a series of experimental randomised controlled trials in a virtual supermarket. There are two experimental phases, covering three different prominent placement positions: checkouts, end-of-aisle and store entrance, and three groups of products: healthy foods, non-food items, and unhealthy foods. Women are randomised to three experimental (healthy food; non-food) and one control (unhealthy food) condition. The first phase of the study used the heat map functionality from Qualtrics to identify the areas of each experimental condition that participants were interested in – participants were asked to click on images of products in the online supermarket that they were interested in purchasing. The second phase will use eye-tracking technologies to provide objective data on visual attention. Participants will be asked to wear an eye tracker headset and will look at the virtual supermarket online in order to record their interest in the products on display in the different store locations.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

Our findings will tell us how people respond to the placement and packaging of different types of food products. They will provide important evidence about the effects of placement of healthy and less healthy products on purchasing behaviour that will inform policy development; such research is rarely feasible in retail outlets because of the fierce competition and commercial nature of this setting.

These findings will enable us to design ways to lay out supermarkets to help families eat more healthy foods. We will share our findings with the participants in our research and with the public more widely, through Sure Start Children’s Centres and social networks. We will inform policymakers in local and national government about our findings which could help to refine current government policies to address childhood obesity.
The Gateway Study:  
a single-site pragmatic Randomised Control Trial to examine the effectiveness of an OCBI known as ‘Gateway’ on improving health and well-being of offenders aged 18-24, as well as reducing recidivism and improving victim satisfaction

Funding
Adopted: Project is funded elsewhere but supported by ARC Wessex

Chief Investigator
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Dr Alison Booth – University of York
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Organisations Involved
Hampton Trust charity, No Limits charity, Aurora New Dawn

What problem is the project looking to solve and how is it going about solving it?
Young adult offenders commonly have a range of health and social needs, making them vulnerable to mental health problems. If you are aged between 18-24 years old and have committed a crime, you may need to attend court and face convictions or prison. However, many believe that more should be done to prevent young adults from entering the criminal justice system in the first place. The study aims to determine whether a new out of court programme, named Gateway, improves the health and well-being of young adult offenders aged 18-24, and influences their chance of offending again, and gives victim satisfaction. The Gateway programme is issued as a conditional caution and has been developed by Hampshire Constabulary (HC), in partnership with local community groups, with an aim to improve the life chances of young adult offenders. In the programme, a mentor assesses the needs of each adult and develops a care pathway with referrals to healthcare. The young adult offenders then participate in two workshops about empathy, and the causes and consequences of their behaviour. Such intervention programmes are believed to improve the health and well-being of young offenders and reduce criminal behaviour. However, there is currently little information about the extent of this improvement. To find out whether the programme works, this research study compares a group of young adult offenders taking part in the Gateway programme as a conditional caution with a group of non-participants who are required to appear in court or given a different conditional caution.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
The 2013 Harris Review on self-inflicted deaths in custody ‘Changing Prisons, Saving Lives’ calls for more to be done to divert young adults from entering the criminal justice system; increased availability of child and adolescent mental health services; and earlier prevention within the community. There is now a growing impetus to address the needs of young adult offenders aged 18-24, who represent a population at risk of poor mental health outcomes, including risk of alcohol misuse, drug abuse, self-harm and suicide. Furthermore, there is an interest in understanding the potential for cost savings where the current social and economic costs of young offenders is estimated at around £19 billion a year, placing considerable pressure on public finances. Evidence from RCTs suggest that community-based interventions for children (aged 13-17) on a court referral order, or a supervision order, can reduce societal costs for young people with severe psychosocial and behavioural problems, and generate cost savings. The research primarily will have an impact on vulnerable population groups (offenders and victims) who are not effectively engaged in research as they are harder to reach. The risk of not engaging this population group, however, will widen health inequalities and its impact on society. This research will potentially have an impact on an offender’s engagement in, knowledge and attitudes of, and improvement in, health and well-being. The economic evaluation used in this study will provide key evidence to inform decision making on the cost-effectiveness of the intervention, the potential to make cost-savings and improve public finances.

Project Status
Ongoing.

Links to further information/publication:

Healthy Communities
DIGNIFIE
Dynamic Gender-sensitive evaluation of a prison alternative - (intervention is known as Hope Street)

Funding
Adopted: Project is funded elsewhere but supported by ARC Wessex

Chief Investigator
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Dr Kathy Kendall – University of Southampton
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Dr James Hall – University of Southampton

Organisations Involved
One Small Thing, Prison Reform Trust, Ministry of Justice, Her Majesty’s Prison and Probation Services, Vivid Housing, Crown and Magistrates Courts, Southampton City Council, Adult Services, Southampton, Children Services, Southampton, Housing and Community Inclusion, NHS Southern Health, Change Grow Live (CGL) Southampton, Southern Health NHS Foundation Trust, Hampshire County Council, Portsmouth City Council, Society of St James

What problem is the project looking to solve and how is it going about solving it?
This evaluation seeks to determine whether women’s health and wellbeing, social and criminal justice outcomes are improved when they are placed in a community based residential facility (Hope Street) rather than being imprisoned. The Ministry of Justice’s 2018 Female Offender Strategy sets out plans to improve outcomes for women in the community and custody. It aspires to ensure that fewer women are imprisoned and recommends the move to community management of women in contact with the criminal justice system (CJS), including residential women’s centres with places for women to bring their children. It is in this context that Hope Street, the community alternative to imprisonment, has been developed in Southampton.

Women in contact with the CJS are some of the most disadvantaged people in society. One third of them will have been in care as children, two thirds live with ongoing domestic abuse and most will have experienced poverty. They have lower basic skills attainment than the general population, are more likely to be unemployed and to be in insecure housing. Their health is considerably poorer than that of women in the community; for example, the standardised mortality ratio for suicide is 20 times higher in imprisoned women than in the general population.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
At the end of the project, we will know whether women in Hope Street have better outcomes for a range of health, social and criminal justice indicators than comparable women who are imprisoned. These outcomes include health indicators (e.g. GHQ-12, SF-36, use of health services) and criminal justice indicators such as reoffending rates. The qualitative work will enable us to understand the reasons for any changes in these outcomes over time whilst women are receiving services in Hope Street and how their experience differs from imprisoned women. Many women will also have dependent children and we will seek to understand the impact of Hope Street on the health and wellbeing. We will also conduct a health economic analysis, using an impact inventory, a more recent extension to the traditional cost-consequences analysis that involves detailed consideration of all the relevant costs and benefits consequential to the intervention (Hope Street).

Previous evaluations of residential alternatives have been methodologically weak and there is no high-quality evidence on the impact of these interventions on women or their families. This evaluation will provide the most robust data to date. Given the paucity of research in this area, it will provide much needed data to inform the development of health and social care services for this population of women and their children locally but will be of relevance nationally, as more residential alternatives are rolled out across the country in line with national policy.

Links to further information/publication:
One small thing
https://onesmallthing.org.uk/hopestreet

Project Status
Ongoing.
Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
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Dr Gemma Ward – Public Health England
Mr Colin McAllister – Southampton City CCG
Mr Stuart Smith – Southampton City CCG
Dr Mark Wright Wessex – Operational Delivery Network for Hepatitis C
Ms Pamela Campbell – Solent NHS Trust, Homeless Healthcare Team

Organisations Involved
University of Southampton, University Hospital Southampton NHS Foundation Trust, Solent NHS Trust, NHS England, Public Health England, Southampton City CCG, Southampton City Council, Hepatitis C Trust

What problem is the project looking to solve and how is it going about solving it?
The people at highest risk of Hepatitis C (HCV) in the United Kingdom (UK) are those who are sharing needles, syringes or injecting equipment. This includes people who inject performance and image enhancing drugs (PIEDs) such as steroids. This population are high users of needle and syringe programmes, however, the risks taken by this population and their access to testing for HCV are poorly understood.

The information that is available is not consistent, with the proportion of people with HCV varying widely but may be as high as one in seven PIED users. The study has been discussed in detail with bodybuilders, a gym owner, pharmacists and people who work at needle and syringe programmes (NSPs). The bodybuilders were very keen to be involved in the study as they want to have accurate, scientifically performed studies. They feel strongly that the information that is out there currently is not representative of their community that use PIEDs. They also felt that it was important that to have a focus on HCV, but they were keen to be involved in a study that also addresses at other elements of liver health. The methodology for the study were discussed and adapted after patient and public involvement (PPI) meetings.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
The aim of this study is to see if widening access to testing of HCV based in community pharmacies with a pathway into specialist care is able to provide improved and acceptable access to testing and treatment compared with standard care. We also want to gain a better understanding of the burden of HCV in this group of people who are using PIEDs, and an understanding of risk behaviours. We will also investigate knowledge of liver disease caused by other factors (e.g. alcohol and obesity). This will be done via interviews with bodybuilders to understand more about their behaviour and the risks they take. This will be followed by a survey with an associated HCV test and measurement of liver scarring.

The information gained from the interviews, surveys and tests will give a far greater understanding of this population and their risk of HCV. This information can then be used to target at-risk groups and to adapt current approaches with the aim of elimination. The results will be disseminated in medical journals and presented at medical conferences.

Project Status
Ongoing.
What problem is the project looking to solve and how is it going about solving it?

Homelessness in the United Kingdom is increasing. The death rate in people who are homeless is also increasing. A leading cause of death in the homeless is alcohol-related liver disease.

In most large cities in the UK, people experiencing homelessness have access to homeless healthcare teams. These provide services through General Practitioners (GPs) and nurses. Where appropriate, these teams deliver advice about alcohol consumption. Sometimes they also offer screening tests for liver disease. However, these clinics are affected by non-attendance and when patients are referred to specialist liver doctors many do not attend.

Alcohol consumption is known to cluster within groups of friends. We suspect that this is also the case in the homeless. For example, some people who are homeless may buy alcohol for each other or drink together. They are therefore likely to know who else is drinking too much alcohol.

Questions and Objectives

We want to know whether it is possible to design a service that uses the social connections between people who are homeless to improve their access to liver specialist services. To answer this question, we will address the following objectives:

1. Explore how harmful alcohol consumption is associated within groups of friends
2. Explore whether the homeless are happy to refer each other to liver scanning appointments

How will it be done?

We will identify people who are homeless and drinking too much alcohol. They will be offered a liver scan in a homeless hostel or day centre. They will also be given vouchers for referring their friends who are also at risk of alcohol-related liver disease. People experiencing homelessness who participate in the service will complete a questionnaire about their ‘drinking network’ and some will complete a recorded interview.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

By using social networks this study will try exploring a new way of delivering specialist liver services to the homeless. We hope it will lead to a larger trial to test this service. This research is very important, no services like this have been tested in a homeless population before and if it works it could reduce the high death rate from liver disease in homeless. It could also save the National Health Service money by reducing the use of emergency services and non-attendance at appointments.

Project Status

Ongoing.
Funding
Post Doc: The project is led by an ARC Wessex funded Post-Doctoral Student

Chief Investigator
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Project Team Members
Julie Parkes – University of Southampton
Dr Richard Aspinall – Portsmouth University Hospitals NHS Trust

Organisations Involved
British Liver Trust, Portsmouth Football Club (Pompey In The Community), Portsmouth City Council public health team

What problem is the project looking to solve and how is it going about solving it?
Liver disease is the third biggest cause of early death in the UK. Two of the main causes of liver disease are drinking too much alcohol, which directly damages the liver, and being overweight, which can lead to fat building up in the liver and causing damage.

If liver disease is detected early, it is possible to prevent disease progression, and in some cases to reverse damage done. This benefits patients and reduces impact on the healthcare system.

The best way to detect liver disease early is not known. Tests and risk scores are available which use a simple blood test and information about the patient. These were developed in hospital settings, for people with known liver disease. They have not been used sufficiently in general population settings and we do not know how good they are at detecting liver disease in these settings.

This project is investigating how these tests and scores perform in general population settings, using data from the UK Biobank, a big dataset from general population volunteers. We are exploring whether combining tests/scores with information about people’s risk factors for liver disease, such as alcohol consumption and weight, to best predict those who have disease. This information will be used to:

- Detect liver disease early, improving clinical outcomes for patients
- Help primary care professionals assess their patient’s risk of liver disease and manage them appropriately
- Improve pathways into secondary care for patients with suspected liver disease, increasing the efficiency of services and the patient experience

We will know whether targeting high risk populations in community settings, to try and detect people with liver disease, is a successful strategy. We will learn how acceptable community-based risk assessments are to people, and whether they are effective. This will help us to plan future liver disease detection services to be accessible, acceptable and effective.

We will know how we can best work with organisations embedded in local communities, such as football clubs, to promote health and engage people through less traditional routes into healthcare. We will build on these relationships to better understand the communities we serve, and how to ensure our future research directly benefits them.

Links to further information/publication:
https://britishlivertrust.org.uk
Pompey in the Community (pompeyitc.org.uk)

Project Status
Ongoing.

Help, information and advice
Take our quick online test to see if you are at risk: www.britishlivertrust.org.uk/screener
Download our information guides: www.britishlivertrust.org.uk/publications
Call our helpline: 0800 652 7330 (10am-3pm, Mon-Fri)
What problem is the project looking to solve and how is it going about solving it?

In the UK, domestic abuse (DA) is defined as “any incidents, or patterns of incidents, of controlling, coercive, or threatening behaviour, violence or abuse between those aged 16 or over, who are or have been, intimate partners or family members regardless of gender or sexuality. The abuse can encompass, but is not limited to psychological, physical, sexual, financial and emotional”. In England and Wales an estimated 2.4 million adults experienced DA in 2019 and the cost to health services is estimated at £2.3 billion per year.

People living with a life-limiting illness (LLI), for example, cancer, motor neurone disease (MND), and heart failure are at increased risk of DA because they are vulnerable, frail, isolated and dependent on others. The abuser is likely to be their carer. They will spend long periods of time in the home, in close proximity to abusers, and may have difficulty seeking help and support. This situation will have worsened during the COVID-19 pandemic because those with a LLI have been required to shield, increasing their isolation. To date little attention has been paid to the particular support needs of this group. While there are existing resources available to screen for DA and provide support, the people we spoke to told us that these more general tools are not appropriate for meeting the particular needs of people with a LLI.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

The study began in January 2020 and will end in the summer of 2023. We will develop a resource to help practitioners working in hospice and palliative care services detect, manage and respond to DA. To do this we need to find out about what is already available and identify examples of good practice. We will look at published research, unpublished sources and relevant policy documents, map existing services, and carry out interviews with key stakeholders.

From the start, we will work with ARC Wessex, our project partners and PPI representatives to identify who we need to engage and how to reach them. We will hold a dissemination event at the end of the study to share the resource with relevant stakeholders. Findings will be provided in a short report to project partners, social media posts for the wider public, and attendance at events such as Dying Matters Awareness Week. We will also publish papers in academic journals and present at relevant conferences.
Co-construction and piloting of web-based, family-focused support for those bereaved during COVID-19

**Funding**

**Core:** Project has been funded by ARC Wessex

**Chief Investigator**

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Dr Michelle Myall – University of Southampton

**Project Team Members**

Dr Susi Lund – University of Southampton

Dr Alison Allam – PPI Co-applicant

**Organisations Involved**

National Bereavement Alliance

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**What problem is the project looking to solve and how is it going about solving it?**

The coronavirus (COVID-19) pandemic has led to increasing numbers of people who have experienced bereavement both in the UK and worldwide. We know that bereavement can seriously affect people’s health. Bereaved people are more likely to experience serious physical and psychological health consequences, such as heart disease and anxiety and depression, particularly in the first year of losing someone close to them. There are some things that can help prevent the health effects caused by grief. For example, being able to see a person receive good end of life care and death occurred suddenly. Social distancing restrictions prevented the support often provided through families and friends coming together. Restrictions applied to funerals also prevented some families being able to attend the funeral of a relative. All of this made it difficult for people to make sense of what has happened and to look for support to help them with their loss and grief. However, traditional ways of providing bereavement support (face-to-face or by telephone or video) may not have been possible because of an increase in demand for support. A family focused online support resource, which considers grief in the context of the family, offers a way of helping people to deal with their bereavement experienced during these unusual times and beyond.

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**What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?**

**What are the study aims?**

We will design an online resource, to provide bereavement support by helping users make sense of the loss of the person close to them. We will work with patients and public representatives, bereavement experts, such as bereavement organisations and palliative care social workers, and a web designer to develop the resource. This will be carried out through a survey and online workshops. We will ask people who have been bereaved during the COVID-19 pandemic to test the resource and provide feedback on it by leaving comments in a space provided within the resource itself. This will help us make changes needed to improve it.

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**What will happen to study findings?**

From the start we will work with our patient and public representatives, bereavement organisations, health and social care professionals to ensure our findings reach the widest possible audience. We will share progress, findings and the outcomes of the study on social media channels (e.g. Facebook/Twitter), on the websites of our partner organisations, and the website of the funder of the study, National Institute for Health Research Applied Research Collaboration Wessex (NIHR ARC Wessex). At the end of the study we will report our findings in an academic journal and at relevant conferences.

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**Links to further information/publication:**

The web-resource can be found at: [www.familiesinbereavement.org.uk](http://www.familiesinbereavement.org.uk)

**Project Status**

Ongoing.
The Wessex FRIEND Toolbox
(Family Risk IdEntificatioN and Decision)

Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Dr Nisreen Alwan – University of Southampton
Dr Dianna Smith – University of Southampton

Project Team Members
Professor Paul Roderick – University of Southampton
Dr Ivaylo Vassilev – University of Southampton
Dr Grace Grove – University of Southampton
Dr Nida Ziauddeen – University of Southampton
Dr Lauren Rixson – University of Southampton

Organisations Involved
University of Southampton, Portsmouth City Council, Hampshire County Council, Solent NHS Trust, Southampton City Council, Health Education England, Oxford Brookes University, Home-Start Portsmouth

What problem is the project looking to solve and how is it going about solving it?
Childhood obesity is a leading public health challenge, with deprivation being a major determinant. The dual pressure of constrained personal resources and poor health creates a challenging environment for children. We need to properly measure family-based risk of obesity and population-level poverty to reduce current health inequalities across the life course.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
Health visitors and parents find the obesity prediction tool quick and easy to use. Health visitors have a set number of visits with family during which they provide care and have to impart a lot of information. This limits the time available, so we need to ensure a streamlined process to make participation easier.

External validation: https://jech.bmj.com/content/74/Suppl_1/A26.1.abstract

Project Status
Complete.

Links to further information/publication:
GOODNIGHT Covid-19 to care-home-based vulnerable individuals

Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Dr Thomas Daniels – University of Southampton
Dr Ryan Buchanan – University of Southampton

Project Team Members
Professor Julie Parke – University of Southampton
Professor Helen Roberts – University of Southampton
Emeritus Professor Jeremy Wyatt – University of Southampton
Dr Beth Stuart – Southampton Clinical Trials Unit
Dr Kinda Ibrahim – University Hospital Southampton NHS Foundation Trust
Dr Andrew Cook – University of Southampton

Organisations Involved
Care homes (multiple), University Hospital Southampton, University of Southampton, Southampton Clinical Trials Unit

What problem is the project looking to solve and how is it going about solving it?
Salty water is known to be effective in treating viral infections and there is some evidence that it can reduce the spread of respiratory viruses including corona viruses. We developed a trial that randomly assigned staff in some care homes to the Intervention, which involved them having to rinse their noses and gargle their mouth with salty water 2-3 times during their shifts. We contacted 30 care homes and seven agreed to participate in the trial. Four were asked to do the intervention.

Two care homes that were randomised to do the rinsing did not complete the trial. Conducting research during the pandemic for one was understandably difficult and the other care home staff felt the need to do the rinsing had passed as the second wave of COVID-19 waned. In the remaining two care homes uptake of the rinsing was good. In one, 100% of the staff did the rinsing in the early weeks of the trial.

Six interviews with staff were conducted to understand their experience of rinsing. Staff said that having a manager who was enthusiastic about the rinsing procedure and having appointed ‘champions’ to run a group training, provide staff with relevant information, answer any questions or queries they have and maintain enthusiasm were important factors for the success of implementing the rinsing. Although some of the staff found the procedure was uncomfortable (particularly the gargling) there were no reported ‘adverse events’ during the trial from the salty water. Staff who appreciated the potential benefits of the intervention and who wanted to do anything to fight the virus, were more likely to apply the rinsing and gargling procedure. Making the rinsing and gargling part of staff daily routine was also important.

Overall, we showed that salty water rinsing of the nose and mouth could be done by care home staff during their shifts. Furthermore, we showed that it is safe and identified ways to encourage staff to do the rinsing. We did not examine whether the salty water rinsing prevented transmission of COVID-19 to the vulnerable people they look after. To do this we would need a much larger trial involving dozens of care homes and would need to carefully collect data showing how many residents contracted COVID-19.

Prevention is an important part of the fight against the virus. This rinsing procedure could also be an important part of care home infection control procedures (such as washing hands, social distancing and wearing masks).

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

• Nominate an enthusiastic champion or champions in your care home to facilitate the adoption of the rinsing procedure
• To enable staff to perform the rinsing correctly let them watch this training video (https://vimeo.com/289739888). You need a plastic 60ml galley pot, 1.5g of sea salt in two sachets and a plastic stirrer. Make up the solution using cooled boiled water.
• Best to offer group training to staff to allow building shared commitment and interest and to answer any specific questions they have. Empower the champions to lead the training and monitor staff performance.
• To ensure competency, champions can watch their staff colleagues performing the rinsing procedure.
• Integrate the rinsing procedure in staff daily routine. For example, at the beginning of their shift and during the breaks.
• Ask staff frequently for feedback and address any concerns

Links to further information/publication:
https://enrich.nihr.ac.uk/blogpost/an-update-on-the-good-night-covid-trial/

Project Status
Complete.
Healthy Communities

Developing and evaluating the feasibility of a community-based health literacy intervention to empower socially disadvantaged parents/carers of children aged 0-4 years to manage minor childhood illness and confidently navigate health services

Funding
PhD: The project is led by an ARC Wessex funded PhD student

Chief Investigator
Mrs Samantha Belfrage – University of Winchester

Project Team Members
Professor James Faulkner – University of Winchester
Dr Margaret Husted – University of Winchester
Dr Simon Fraser – University of Southampton
Dr Sanjay Patel – University Hospital Southampton NHS Foundation Trust

Organisations Involved
University of Southampton, University of Winchester, University Hospital Southampton NHS Foundation Trust

What problem is the project looking to solve and how is it going about solving it?
This research project aims to make community-based intervention recommendations to increase the health literacy of parents/caregivers of children aged 0 to 4 years. This project will use a systematic review and sequential descriptive mixed method designs to meet the following research aims:
• Research Aim 1: establish the effectiveness of community-based health literacy interventions aimed at parents
• Research Aim 2: generate evidence of the validity of the Parent Health Literacy Questionnaire (pHLQ)
• Research Aim 3: profile the health literacy of parents living in areas of high deprivation
• Research Aim 4: identify interventions which could meet the health literacy needs of parents living in areas of high deprivation

Patient and public involvement will be sought throughout this research project.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
This research project will provide a valuable contribution to the field of community-based health literacy interventions. The development of such an intervention, which is accepted by parents living in areas of high deprivation could empower and increase confidence and skills to self-manage minor childhood illnesses, increase knowledge to access appropriate support/services, and reduce unnecessary healthcare attendance. This in turn could reduce costs to the NHS, reduce family stress, and reduce health inequalities through the improvement of health outcomes for children.

Project Status
Ongoing.
Healthy Communities

The cross-sector implementation of NICE-recommended CBT-based interventions for young people in care: Framework

Funding

Adopted: Project is funded elsewhere but supported by ARC Wessex

Chief Investigator

Dr Rachel Hiller - University of Southampton

Project Team Members

Dr Gretchen Bjornstad - University of Exeter
Dr Tim Clarke – Norfolk & Waveney Children and Young People Care Group
Dr Kristian Hudson – Improvement Academy
Bradford Teaching Hospital NHS Foundation Trust
Professor John Macleod - University of Bristol
Dr Ruth McGovern - Newcastle University
Dr Hugh McLeod - University of Bristol
Professor Richard Meiser-Stedman - University of East Anglia
Dr Sara Morgan - University of Southampton
Dr Beverley Slater – Bradford Institute of Health Research
Professor Paul Stallard - University of Bath
Professor John Wright - Bradford Institute of Health Research
Dr Patrick Smith – King’s College London

Organisations Involved

Swindon Borough Council, Bath and North East Somerset (BaNES) Children’s Services, Thinking Allowed specialist-service, Bristol, Newcastle City Council Children’s Social Care, Child and Adolescent Mental Health Services (CAMHS) (East)

What problem is the project looking to solve and how is it going about solving it?

Young people in care (care-experienced young people; CEYP) have substantially higher rates of mental health difficulties compared to their peers. Their unaddressed mental health needs have been identified as a key driver of a range of poor outcomes that categorise this group. For example, CEYP they are five times more likely than peers to be excluded from school, comprise 50% of the young male prison population, and 25% of the homeless population. Such outcomes are not inevitable. Yet services are often struggling to effectively address the mental health needs of this group, and thus prevent some of these wide-ranging consequences.

To begin to address this complex issue, we are proposing a pilot implementation project, working with CAMHS, social care and third-sector mental health services across four target ARCs. Our pilot project aims to address this via four overlapping stages that form the essential framework for a full-scale implementation trial. These are:

1. A scoping review and consultation with CEYP, carers, and services to develop an initial implementation framework, based on the consolidated framework for implementation research (CFIR)
2. The development of our implementation resources, including training materials
3. The pilot of our implementation strategy in four regions (South West, West, East, North), including qualitative interviews with young people and service-providers and assessing the feasibility of our recruitment and consent procedures for collecting quantitative data from young people.
4. A mapping of service provisions available to CEYP across England to support the next-step full implementation project.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

The primary outcome of this project, deliverable within 3 years, is identifying what hinders and facilitates the implementation of TF-CBT (Trauma Focused Cognitive Behavioural Therapy) and treatment fidelity, across sectors. The project will provide the necessary framework for supporting the wider-scale full implementation of TF-CBT.

Understanding what prevents services delivering NICE-recommended treatments and how to overcome this, stands to have significant impact - particularly with our cross-sector focus. Our team have strong existing networks to support impact at a local, regional, and national level. At a local and regional level, in the final 4 months we will run free workshops to services to disseminate findings and support further integration into practice. Our train-the-trainer model supports the wider implementation of TF-CBT and sustainability for services, beyond the research project. At a national level we have existing links with relevant third-sector organisations who regularly advocate for CEYP at a policy-level (e.g., CoramBAAF, Fostering Network, National Youth Advocacy Service). To disseminate to these groups, alongside meetings and policy briefing summaries, we will provide case studies from early in Year 2, and later ididographic and video summaries and workshops.

Project Status

Ongoing.
Funding

Adopted: Project is funded elsewhere but supported by ARC Wessex

Chief Investigator
Dr Sara Morgan – University of Southampton

Project Team Members
Dr Steph Scott – ARC North East Coast & North Cumbria
Dr Jessica Roy – University of Bristol
Professor Kate Jolly – ARC West Midlands
Professor Rachel Armitage – ARC Yorkshire & Humber
Dr Joht Singh Chandan – University of Birmingham
Dr David Culliford – University of Southampton
Dr Tracy Long – Sheffield University
Dr Ruth McGovern – Newcastle University
Dr Will McGovern – Northumbria University
Dr Michelle Myall – University of Southampton

Organisations Involved
University of Southampton, University of Bristol, University of Birmingham, Conforth Partnership, Hampton Trust charity, Sheffield University, Newcastle University, Northumbria University

Police Forces

What problem is the project looking to solve and how is it going about solving it?

Over one year, nearly 1,200,000 incidents relating to domestic violence and abuse (DVA) in England and Wales were documented by police, with almost half recorded as criminal offences. DVA leads to an adversity package of poor health and social outcomes, such as alcohol misuse and poorer reproductive health. Stakeholder consultation suggests that the criminal justice system (CJS) is struggling to constructively support victims, deter offenders or reduce reoffending, by means of an early intervention. Victims have voiced dissatisfaction and, collectively, professionals feel that they could do better.

Project CARA was developed in 2011 as a conditional caution offered by the police to first time adult offenders of DVA of standard risk. Offenders are required to undertake two mandatory workshops that increase awareness of their abusive behaviour and the safety of partners and children. In these workshops offenders are further signposted onto services that support improvements in the wider determinants of their offending behaviour, such as to their GP, drug and alcohol services or onto a community perpetrator programme. Our aim is to evaluate the impact of Project CARA following its wider rollout nationally, including in Hampshire, Avon & Somerset, Dorset, West Midlands, Leicester, West Yorkshire, Cambridgeshire and Norfolk. This will be a mixed methods evaluation study, including a health economic evaluation, over two years aimed at examining harm to victim and their families whose partners (or former partners) took part in CARA.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

• The research primarily will have an impact on offenders, victim/survivor and their families. The risk of not engaging this population group, however, will widen health inequalities and its impact on society.

• The health economic evaluation will provide information about the potential costs to the health and social care system in England and Wales, thereby informing decision making on the cost-effectiveness of the intervention.

• The results of the study will be shared with key parliamentary groups, including the Home Office, the Ministry of Justice. The evidence may support policy decisions or changes to legislations, regulations and guidelines on the use of conditional cautions for domestic violence and abuse.

• Where the stakeholders of the research are also non-governmental organisations and public services, the research will also increase the effectiveness of public services and policy.

Project Status
Ongoing.
**High Harm Domestic Violence Perpetrator Pilot Evaluation**

**Funding**
Adopted: Project is funded elsewhere but supported by ARC Wessex

**Chief Investigator**
Dr Sara Morgan – University of Southampton

**Project Team Members**
Mrs Katerina Porter – University of Southampton
Mrs Fiona Maxwell – University of Southampton
Professor Julie Parkes – University of Southampton

**Organisations Involved**

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**What problem is the project looking to solve and how is it going about solving it?**
Home Office funding has been awarded to a multi-agency partnership in Southampton and Hampshire, to pilot a model of workforce development, new approaches and pathways for perpetrators of domestic violence and abuse (DVA). As part of this work, the High Harm Domestic Violence Perpetrator Pilot Evaluation aims to facilitate and promote early identification and engagement with perpetrators of DVA, who are deemed to pose a high risk of harm to their victims and families. Evidence suggests that perpetrators in the 18-24 age group are most difficult to engage in positive behaviour change programmes. This is also an age group where high levels of harmful behaviour are seen. This mixed methods evaluation is aimed at evaluating the extent to which front-line practitioners feel more equipped to engage with perpetrators (‘DARE’ training) following training and to evaluate the identification, referral and engagement of perpetrators who meet the agreed criteria; and monitoring/disrupting of those who are not willing to engage with the behaviour change intervention (‘Operation Foundation’ scheme).

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**What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?**
This study will:

- Address current gaps in evidence around the identification and management of high harm high risk perpetrators across Hampshire
- Provide evidence on the process of Operation Foundation and how it tracks, monitors, and disrupts eligible perpetrators
- Inform our understanding of the challenges, barriers, and facilitators in implementing the Operation Foundation scheme in Hampshire
- Provide evidence around the suitability of the DARE training in increasing the confidence and competence of front-line staff in communicating with perpetrators
- Provide overall recommendations to the overall policing system within Hampshire, on the management of high harm high risk perpetrators

**Project Status**
Ongoing.
What problem is the project looking to solve and how is it going about solving it?

For young people, experience of domestic violence or abuse (DVA) is associated with an increased likelihood of experiencing mental health problems, poor academic attainment and later criminal or violent behaviour. The importance of early identification and support for children experiencing DVA is therefore paramount. One safeguarding scheme that is implemented in the UK is Operation Encompass (OE). This scheme involves partnership working between police and schools, to ensure that school safeguarding leads are informed of incidents of DVA involving children from their schools by the start of the next school day. Whilst the OE scheme has been implemented nationally, there is no existing published research exploring implementation of the scheme.

This qualitative scoping study carried out semi-structured interviews with 13 police workers and 12 school designated safeguarding leads. Thematic analysis explored three main themes:

1) Information sharing: “the beauty of Encompass is that it’s a conversation”, describing, for example, how OE is invaluable, although seen by some as resource-intensive

2) Facilitators and barriers of the OE scheme, such as staff responsiveness, funding, and resources

3) School support and outcomes: “Now they knew about it, they could go on to help”, such as the usefulness of identifying DVA cases, providing family and wellbeing support. While the OE scheme was considered invaluable in identifying and supporting children following OE, further research into the scheme could assist in a better understanding of how to optimise support for children in schools following a notification of an incidence of DVA.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

This study will:

Children and young people experiencing DVA are now recognised as victims in their own right (Home Office, 2021). The importance of early identification and support for children experiencing DVA is therefore paramount. This study explored the ways in which the OE scheme is being implemented in the UK, to better understand the nature of identification, safeguarding and intervention for children experiencing to DVA as part of the OE initiative. This will provide important information to inform future priorities and policies around interventions and commissioning of services following the implementation of OE. The findings from this research have been written up as report and journal article and has been shared with key stakeholders involved in the Operation Encompass scheme.

- Provide overall recommendations to the overall policing system within Hampshire, on the management of high harm high risk perpetrators

Project Status

Completed.
Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Mrs Fiona Maxwell – University of Southampton

Project Team Members
Professor Julie Parkes – University of Southampton
Dr Sara Morgan – University of Southampton

Organisations Involved
Hampshire Constabulary, Hampton Trust, Office of the Police and Crime Commissioner, Hampshire.

What problem is the project looking to solve and how is it going about solving it?
Women entering the criminal justice system often have multiple and complex needs, including histories of abuse and victimisation, mental health difficulties, substance misuse and previous involvement with the care system. Developing the range and effectiveness of options for managing women in the community is a stated aim of the Female Offender Strategy.

The Hampton Trust was awarded grant funding from the Office of the Police and Crime Commissioner to pilot the WaDE programme for one year in the East Hampshire policing district (excluding Isle of Wight) from August 2019 to August 2020. The programme consisted of two 5-hour workshops facilitated by Hampton Trust practitioners, offered to women who are eligible for a conditional caution (out of court diversion). The 16-week programme was designed to support women to consider their offending and trigger behaviours, the impact and harm of offending behaviour, their attitudes and thinking, and the contribution that historic abuse and exploitation, previous trauma, vulnerability, or protective factors may have or have had on their situation.

We undertook an evaluation to measure the impact of the programme on individual quantitative outcomes, including self-perceived resilience and recidivism, for participants attending the pilot between October 2019 and March 2020. Data was collected by the Police and the Hampton Trust at the time of caution (t0) and at the end of the conditional caution (t1). We collected data on their demographic information (age, ethnicity, occupation, qualifications, number of children), trauma history, self-perceived resilience, and perceived benefit from the programme.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
WaDE is a woman-specific, conditional caution which was initially piloted in the Portsmouth and East Hampshire (excluding the Isle of Wight) policing district, starting in October 2019. Its delivery was significantly affected from March 2020 onwards by the restrictions resulting from the COVID-19 pandemic. Our evaluation looked at the available quantitative data from October 2019 to March 2020. Although follow-up was limited, WaDE appears to have measurable impact on the participants’ overall wellbeing and resilience. The greatest gains were seen in the domains of drug and alcohol use and mental health.

We could not establish a statistically significant difference in reoffending rates between those who attended and those who failed to attend (breached). The profile of women attending WaDE seems to be appropriate, in that these are women who report a range of issues across multiple domains of health, wellbeing and life skills, relatively low resilience and limited social and economic capital, as well as a high level of previous offences. Appropriate, practically useful, and acceptable support needs to be directed at helping such women to avoid a potentially lifelong pattern of disadvantage, exclusion and ill health, and to prevent entry to the ‘revolving door’ of short prison sentences. In this regard, WaDE does appear to lead to positive outcomes and differences in self-reported resilience, both personal and relational. It also appears to be useful as a gateway to access further support and strategies to help participants in addressing ongoing issues.

Project Status
Complete.
Comparing pharmacological and non-pharmacological interventions for adults with Attention-Deficit/Hyperactivity Disorder (ADHD): systematic review and network meta-analysis

Funding
Adopted: Project is funded elsewhere but supported by ARC Wessex

Chief Investigator
Professor Samuele Cortese – University of Southampton

Project Team Members
Professor Andrea Cipriani – University of Oxford
Associate Professor Corentin Gosling – University of Paris Nanterre, France
Dr Luis Faraht – University of São Paulo, Brazil / Yale University Child Study Center, USA
Dr Cinzia Del Giovane – University of Modena and Reggio, Italy

Organisations Involved
Not applicable (the project is a network meta-analysis)

What problem is the project looking to solve and how is it going about solving it?
It is currently unclear how different treatment options for preschool children with ADHD compare with each other in terms of efficacy and safety. We will use data from available randomised controlled trials (RCTs) and apply an advanced and innovative statistical approach (network meta-analysis) to answer this question. The project will start soon in 2022.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
We will understand how pharmacological and non-pharmacological interventions (including behaviour intervention, family-based systematic approaches and dietetic interventions) compare with each other in terms of their beneficial effects on ADHD symptoms and safety.

Project Status
Ongoing.
Our Long Term Conditions theme

Mari Carmen Portillo is Professor of Long-Term Conditions at the School of Health Sciences, University of Southampton.

“To promote better living with and management of long-term conditions we need care plans that make sense to people and respond to individual needs.

We aim to listen to and learn from people’s experiences, explore resources in the community and work in teams that represent different lay people, sectors and professionals.”
Experiences, information and support needs, and decision-making parents during the COVID-19 outbreak?: understanding
SHARE study: how to Support cHildren with cAncer and theiR House Research Centre.

We have published several papers, and are in the process of publishing updates about the SHARE study. The final analysis from the SHARE surveys is complete. The project is ongoing: data collection and analysis continues, and we will be able to tailor and provide the right support, in terms of guidance, information updates, and online interventions to reduce distress and anxiety.

Researchers at the University of Southampton collaborated with University of York and national charities to develop a survey asking children and young people with a serious condition and their parents what their experiences were during the first lockdown, how they were coping with going out or staying at home and what support they wanted. A second and third survey have gone out to children and parents again to find out how things have changed over time.

The project is ongoing: data collection and analysis from the SHARE surveys is complete. We have published several papers, and are completing the final reporting.

What problem is the project looking to solve and how is it going about solving it?

The SHARE study is designed to understand the evolving experiences, information and support needs and decision-making processes for families with children who have a serious condition (cancer, cystic fibrosis, kidney disease, heart disease, allergies, hydrocephalus and other life limiting conditions, as well as parents of babies born premature) during the COVID-19 pandemic.

Children and young people with a serious condition may be vulnerable to COVID-19, in particular those undergoing treatment have a weakened immune system, meaning that they will find it more difficult to fight infections. We, therefore, urgently needed to increase our understanding of evolving experiences, information needs and decision-making of these families under these extraordinarily stressful circumstances. Only through investigating parents'/main carers' experiences and needs will we be able to tailor and provide the right support, in terms of guidance, information updates, and online interventions to reduce distress and anxiety.

Researchers at the University of Southampton collaborated with University of York and national charities to develop a survey asking children and young people with a serious condition and their parents what their experiences were during the first lockdown, how they were coping with going out or staying at home and what support they wanted. A second and third survey have gone out to children and parents again to find out how things have changed over time.

The project is ongoing: data collection and analysis from the SHARE surveys is complete. We have published several papers, and are completing the final reporting.

What will we know at the end of the project that we didn't know before? How will the findings be used to improve clinical outcomes, public health or social care?

The SHARE study has generated 5 peer reviewed publications outlining findings from the study, showing that parents and young people were worried during the pandemic, were vigilant about COVID-19 related symptoms, as well as other symptoms (related to their condition), and felt the hospital was no longer a safe place. During the first lockdown (April-May 2020) participants commonly sought information from their clinical team, condition specific charities and government updates. A minority wanted support to cope with anxiety and distress, whereas most participants wanted clear and consistent information to avoid uncertainty. Parents and young people also highlighted some positive experiences from the lockdown/COVID-19, such as more time with family, and changed priorities.

Over time children and young people with a serious condition and their parents became less worried about the virus, but more concerned about education, and the isolating impact of the second and third lockdown.

The findings from the surveys will lead to a greater understanding of the experiences and needs of these families. They led to the implementation of an intervention for parents with cancer, to support them to cope. The knowledge gained from the SHARE study will also be able to inform responses to a future pandemic. SHARE is working closely with the collaborating charities to share the findings with families, in order to acknowledge their experiences and develop tailored support.

Links to further information/publication:
https://www.southampton.ac.uk/news/2021/04/share-study-results.page
https://www.southampton.ac.uk/healthsciences/research/projects/covid-19-share-study.page
https://journals.sagepub.com/doi/full/10.1177/21501351211007102 (Congenital Heart Disease)

Project Status
Ongoing.
Funding
Adopted: Project is funded elsewhere but supported by ARC Wessex

Chief Investigator
Dr Andrew Weightman – University of Manchester

Project Team Members
Dr Katherine Bradbury – University of Southampton
Professor Helen Dawes – University of Exeter
Mr Andrew Eccles – University of Strathclyde
Dr Safak Dogan – Loughborough University
Dr Glen Cooper – University of Manchester
Professor Frank Bowling – University of Manchester
Dr Xiyu Shi, Loughborough – University of Loughborough
Professor Ahmeet Kondoz – Loughborough University

Organisations Involved
Diabetes UK

What problem is the project looking to solve and how is it going about solving it?
There is a significant unmet clinical need for an adaptable, acceptable and adoptable technology to identify and prevent diabetic foot ulcer (DFU) formation, to enable self-management and timely clinical intervention to improve outcomes and reduce the economic burden of healthcare provision.

Our primary purpose is to develop and implement an adaptable, acceptable, and cost-effective smart sensing insole technology which can detect when a DFU is likely to occur and can adapt plantar tissue loading to prevent formation, thus enabling self-management.

This project proposes to build and expand on current smart insole technologies for the detection of DFUs, utilising a sensor fusion approach for their identification. A smart insole with integrated pressure (normal, shear), temperature, gait (IMU) and mechanomyography (acoustic) sensors will identify early indicators of ulceration and when movement is appropriate/inappropriate. The smart insole will respond to these inputs and adjust the foot (and gait), through an array of artificial muscles, to support better (safe/comfortable) movement. This project aims to co-develop this new smart sensing insole with people living with diabetic foot ulcers.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
We hope to establish:

- What patients think of the idea of a smart sensing insole for early detection of DFUs which includes the provision to adjust the foot to reduce pressure on areas of likely ulceration.
- A prototype insole and optimised this with patient feedback.
- Early safety testing of this device.
- Security protocols to enable secure storage and sharing of data from this insole (e.g., between patient and clinicians).

Project Status
Ongoing.
Supported remote rehabilitation post Covid-19: Development, deployment, and evaluation of a digitally enabled rehabilitation programme

**Funding**

Adopted: Project is funded elsewhere but supported by ARC Wessex

**Chief Investigator**

Professor Elizabeth Murray – University College London

Dr Henry Goodfellow – University College London Institute of Epidemiology & Health Care

**Project Team Members**

Dr Katherine Bradbury – University Of Southampton

Dr Stuart Linke – Camden & Islington NHS Foundation Trust

Mr Chris Robson – University College London

Professor Fiona Stevenson – University College London Institute of Epidemiology & Health Care

Dr Manuel Gomes – University College London Institute of Epidemiology & Health Care

Dr Fiona Hamilton – University College London Institute of Epidemiology & Health Care

Professor Ann Blandford – University College London

Professor John Hurst – University College London

Professor Delmiro Fernandez-Reyes – University College London

Professor William Henley – University of Exeter Medical School

Dr Melissa Heightman – University College London Hospitals NHS Foundation Trust

Dr Paul Pfeffer – Barts Health NHS Trust

Dr William Ricketts – Barts Health NHS Trust

Ms Hannah Hylton – Barts Health NHS Trust

Dr Richa Singh – Barts Health NHS Trust

Ms Julia Bindman – Patient and Public Involvement contributor based in England

**Organisations Involved**

Living With, NHS England, various NHS trusts, AHSN Wessex, UCL Partners.

**What problem is the project looking to solve and how is it going about solving it?**

Covid-19 had affected nearly 300,000 patients in the UK by 6/7/20. Many remain symptomatic with breathlessness, fatigue, and anxiety for weeks or months. These symptoms can be improved with rehabilitation, but traditional, face-to-face models of service delivery will struggle to cope with these large numbers of patients. A digital approach is likely to be needed, but there are numerous challenges with this approach, including failures of implementation; anxieties around the digital divide/health inequalities; and concerns around low engagement with such programmes.

Aim: To refine, deploy and evaluate a digitally-mediated, remote, supported rehabilitation programme for patients affected by Covid-19.

Methods: We will combine research methods common to engineering and computer science (focused on developing a product that is safe, stable and meets user requirements) with those familiar to biomedical and health service researchers (focused on effectiveness and population impact). Thus, we will apply the Medical Research Council (MRC) Framework for development and evaluation of complex interventions (Phases 1, 2 and 4), User-Centred Design (UCD) and the ISO 9241 Human-Computer Interaction (HCI) Lifecycle for intervention development. Behavioural theory and behaviour change techniques will inform content and delivery; Normalisation Process Theory will inform implementation. Evaluation will use mixed methods, combining qualitative (interviews with clinician and patient users) and quantitative data. Quantitative data will include referral, registration, and usage rates, demographic and clinical characteristics of patients, and patient reported outcomes for breathlessness (MRC dyspnoea and Dyspnoea 12 scales); fatigue (FACT-F); anxiety (GAD-7) and nutrition (MUST).

**What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?**

Outputs: (1) A digital health intervention (DHI) to support post-Covid rehabilitation; (2) the DHI can be easily modified to support rehab and self-management in other conditions; (3) generalisable learning on digital health, including: overcoming the digital divide; using AI to improve engagement; implementing DHI into routine clinical practice; enabling efficient review of large numbers of patients; costs and resources needed for sustainable digitally-mediated care; and appropriate funding models.

**Links to further information/publication:**

The development and implementation of a multidisciplinary medication review and describing intervention among frail older people in primary care

Organisations Involved
University of Portsmouth, Wessex AHSN, University of Southampton, Southampton City Clinical Commissioning Group, Primary Care Network Living Well Partnership, Westbourne Medical Centre, Bournemouth.

What problem is the project looking to solve and how is it going about solving it?
One-third of people aged over 65 years live with multimorbidity and take five or more regular medicines (polypharmacy), increasing to 50% in over 85-year-olds. Polypharmacy in older people is associated with increased risk of falls, cognitive impairment, functional decline, hospitalisation, additional length of stay and death. Almost £400 million is spent annually in unnecessary medicines-related harm admissions to hospital in the UK.

Such harms are amplified in older people living with frailty, where the harm might outweigh benefits for some medications or the known time to benefit exceeds projected life expectancy e.g., statins. Management of polypharmacy involves medicine optimisation and deprescribing - the process of tapering / dose reduction, stopping, or switching drugs, with the goal of improving outcomes. Our recent review of the literature identified only six articles evaluating deprescribing among older people with frailty across different settings and concluded that stopping medications was feasible, safe, and could have a positive impact on depression and function within 6 months follow-up.

General Practitioners (GPs) are contracted to conduct annual medication reviews for older people, yet only 50% received annual drug reviews by their GPs in 2018-2019. The

2020/21 Primary Care Network (PCN) Contract Directed Enhanced Service (DES) Specification recommends involving prescribing practice pharmacists or advanced nurse practitioners (ANPs) to deliver medicine optimisation and priorities should be given to patients: with severe frailty; in care homes; with complex and problematic polypharmacy, specifically those on 10 or more medications; or on medicines commonly associated with medication errors.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
This research will investigate how practice-pharmacists, ANPs and GPs could best work together with patients living with frailty to perform regular medication review.

The MODIFY study has the potential to improve patient outcomes by developing well-structured screening to identify older people living with frailty and designing a multidisciplinary medication review process to be implemented in primary care among those high-risk patients. The study will explore the training and development needs of primary care staff to enable them to safely stop inappropriate medications and a training programme will be developed to increase their skills, capabilities, and confidence.

Barriers and facilitators to successful implementation will be identified and important contextual factors to help develop an intervention that can be practical and easily implementable. Using a Realist approach to intervention development and evaluation throughout the four work packages means that we will be able to understand and resolve these issues during this research. This is also valuable to the design of future trials that test the effectiveness of the intervention and the roll-out and implementation of the intervention in larger samples of practices with a similar context.

Links to further information/publication:


Project Status
Ongoing.
Funding
Post Doc: The project is led by an ARC Wessex funded Post-Doctoral

Chief Investigator
Dr Leire Ambrosio – University of Southampton

Project Team Members
Professor David Baldwin – University of Southampton
Professor Mari Carmen Portillo – University of Southampton
Dr Kate Lippiett – University of Southampton
Dr Lindsey Cherry – University of Southampton
Dr Pritti Aggarwal – Living well partnership – NHS Southampton CCG
Mr Barney Williams Jones – University Hospital Southampton NHS Foundation Trust
Dr Sara Mckelvie – University of Southampton
Ms Linda Lamond – PPI co-applicant

Organisations Involved
University of Southampton, Hampshire and Isle of Wight Integrated Care System, Living well Partnership – Southampton CCG, Oxfordshire Primary Care System, and third sector (Anxiety UK, Mind Oxfordshire)

What problem is the project looking to solve and how is it going about solving it?
People with long term physical conditions are 2-3 times more likely to experience mental health problems than the general population, particularly depression and anxiety. At least 30% of all adults with long term physical conditions also have mental health problems.

People living with long term physical and mental conditions not only experience hardships relating to health but also have complex psychosocial, environmental, economic, and spiritual needs. Healthcare professionals find it difficult to deliver fully integrated care for these populations, partly due to systematic barriers and the fragmentation of health and social services. The advent of social prescribing link workers as a priority for the NHS provides an opportunity to address some of these hardships and needs. Social prescribing link workers aim to connect people to community local services to address their complex needs through a person-centred approach. However, approaches to social prescribing link worker implementation are variable, with potential pathway gaps, and there is unclear guidance for primary care networks about how to integrate this novel workforce into efforts to address and meet the complex needs of people living with long term physical and mental conditions.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
Findings would determinate the barriers and facilitators to the successful implementation of the social prescribing link workers programme in primary care for patients living with long term physical and mental health conditions.

This project is the starting point to develop a comprehensive and tailored programme that will help meet the real and complex needs of those living with long term physical and mental health conditions including those living within deprived areas. Plans for its implementation will be explored involving key stakeholders from Hampshire and Isle of Wight Integrated Care System (ICS), Southampton primary care networks, and local organizations and authorities. Findings will be disseminated within the academic community via peer reviewed publications and presentations at conferences.

Project Status
The project has not started.
Wessex Activation Self-Management and Personalisation Programme

Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Professor Mari Carmen Portillo – University of Southampton

Project Team Members
Dr Hayden Kirk – Solent NHS Trust
Beth Clark – University of Southampton
Carolyn Royse – Dorset County Hospital NHS Foundation Trust
Dr David Culliford – University of Southampton
Dr Louise Johnson – University Hospitals Dorset NHS Foundation Trust
Dr David Kryl – University of Southampton
Professor Alison Richardson – University of Southampton

Organisations Involved
Solent NHS Trust, Southern Health NHS Foundation Trust, University Hospitals Dorset NHS Foundation Trust, Dorset Integrated Care System (ICS), Hampshire and Isle of Wight Integrated Care System (ICS), Dorset County Hospital NHS Foundation Trust, Health Education England (South East).

What problem is the project looking to solve and how is it going about solving it?
Personalised care is a core focus within the NHS Long Term Plan (2019), and is described in detail in the Comprehensive Model of Personalised Care (2018). This model describes a whole-population approach to supporting people to manage their physical and mental health and wellbeing.

Delivering care that is more personalised is not straightforward. It requires a fundamental change in systems and processes, knowledge and skills, attitudes and behaviours. This shift requires focussed and sustained efforts to deliver.

The Wessex Activation, Self-Management and Personalisation (WASP) Programme is a clinical-academic collaborative. We support the implementation of personalised care that is sustainable, measureable – and that ultimately improves outcomes for those living with long term conditions.

We do this through training and support that includes three complementary elements; underpinned by the COM-B (‘capability’, ‘opportunity’, ‘motivation’ and ‘behaviour’) behaviour change framework.

1. Self-Assessment Report: Understanding current personalised care practice through a system wide self-assessment and report. This tool recognises the important role that partners across a system play in enabling care to be delivered in a personalised way. Mirrored self-assessments are completed by those in commissioning, managerial and frontline roles, and by service users. A report provides healthcare teams with a greater understanding of their system, highlighting the enablers and barriers to the delivery of personalised care.

2. Knowledge and Skills: Training to provide clinicians with the specific knowledge and skills to deliver personalised care effectively.

3. Quality Improvement: training and mentorship to ensure measurable and sustainable improvements in clinical care.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
Through this project, we will have an improved understanding of current personalised care delivery within the NHS, including the perspective of a wide range of stakeholders. Evaluation of the WASP training packages will provide insight into the factors that influence implementation of improvements in this field, illustrated by practical examples and patient stories. Through the research evaluation, we will be able to describe if the WASP programme works, how it works, and if/how it can be improved.

Outputs from this work will be scalable – including:

• a digitalised self-assessment tool, enabling services to identify where improvement can be made, and the barriers and enablers to change
• a dataset (collected through this self-assessment process), providing population level information about personalised care delivery, which can be analysed at regional or national level
• a suite of training resources, that have been developed and “tested” in a broad range of clinical settings

These materials will be used to support services to improve and evaluate personalised care delivery.

Links to further information/publication:
FREE: Personalised Care Bite Sized Webinar Series 2022 | NIHR Applied Research Collaboration Wessex
Twitter: @WASP_Pers_Care

Project Status
Ongoing.
Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Professor Mari-Carmen Portillio – University of Southampton

Project Team Members
Dr Kelly Hislop-Lennie – University of Southampton
Dr Emily Arden-Close – Bournemouth University
Mr Nestor Serrano-Fuentes – University of Southampton
Dr David Culliford – University of Southampton
Dr James Bennett – Clinical Research Network Wessex (CRN Wessex)
Dr Simon Fraser – University of Southampton
Dr Leire Ambrosio – University of Southampton
Corinne Driessens – University of Southampton

Organisations Involved
University Hospital Southampton NHS Foundation Trust, University of Southampton,

What problem is the project looking to solve and how is it going about solving it?
Long term conditions (LTCs) are a worldwide challenge because of their complications, increasing number, costs, and impact on people’s lives. To develop interventions that improve the adaptation to illness and quality of life, we need appropriate, reliable, and valid tools, which reflect cultural and language diversities and individuals’ needs. This would benefit both patients and health/social care professionals in the management of LTCs, by allowing the patients a way to express their needs and therefore allow the health/social care professional to direct the patient to specific, relevant resources.

The present study aims to produce an English version of the Living with Chronic Illness Scale and establish if it can be useful and applicable to English speaking people with LTCs in the UK.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
A pilot study has already been completed which included the translation of the Spanish version of the scale into English and made the necessary cultural changes following feedback from our Public and Patient Involvement group. After this, we tested the understanding of the approved English version with 49 people living with long term conditions across Wessex. Finally, we used the final English version of the scale with at 560 people living with different LTCs in community settings nationally. Apart from the Living with Chronic Illness Scale, we have asked participants about perceived social support, life satisfaction, quality of life, and the perceived severity of their LTCs, using tools for English speakers. Recruitment is now complete, and analysis is ongoing and will be completed by the end of May 2022.

Finally, 2 discussion groups will take place with people with LTCs, 2 with family-carers and 2 with health professionals to explore and compare their views about the usefulness of this scale in the daily management of LTCs.

Links to further information/publication:

Project Status
Ongoing.
Development of policy recommendations to reduce the impact of COVID-19 on physical activity and mental health in individuals with multimorbidity: a mixed method study

**Maintenance Of physical activity beHaviour (MOTH) programme**

**Funding**
Core: Project has been funded by ARC Wessex

**Chief Investigator**
Professor Maria Stokes – Professor of Musculoskeletal Rehabilitation, School of Health Sciences, University of Southampton, UK

**Project Team Members**
Dr Chloie Grimmett (deputy lead), Mr Paul Muckelt, Dr David Culliford, Dr Euan Sadler, Dr Dorit Kunkel, Dr Simon Fraser, Professor Sandy Jack – University of Southampton

Professor Suzanne McDonough – Royal College of Surgeons in Ireland; Visiting Professor at University of Southampton

Dr Aoiife Stephenson – Royal College of Surgeons in Ireland

Mr Ranj Parmar and Mr Jem Lawson – Public contributors

Professor James Bilzon, Dr Simon Jones – University of Bath

Mrs Luisa Holt – University of Southampton

**Organisations Involved**
Royal College of Surgeons in Ireland, University of Bath, University of Southampton, University of Winchester, Wessex Clinical Research Network (CRN Wessex), Academic Health Sciences Network (AHSN), NHS trusts.

**Project Status**
Ongoing.

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**What problem is the project looking to solve and how is it going about solving it?**

Physical activity is an important part of managing and preventing long-term conditions (LTC), through supporting people to remain active, improve symptoms and reduce future problems. A variety of digital and non-digital programmes and tools exist, such as exercise referral schemes and websites or mobile applications, to support people to start being active. However, these programmes/tools are often less effective at helping people to stay active in the longer term.

The MOTH programme aims to identify existing digital tools and their components that help people with LTCs to stay active and understand the factors that support or inhibit their use in the NHS. The programme is also working with exercise referral schemes to evaluate and understand the needs of participants to support physical activity after the scheme has ended and how this could be implemented. Ultimately, the MOTH programme aims to develop digital and non-digital support that is usable, accessible, and relevant to help people with LTCs to stay active.

**What will we know at the end of the project that we didn't know before? How will the findings be used to improve clinical outcomes, public health or social care?**

To understand the impact of COVID-19 and government restrictions on physical activity and mental health of people with long-term conditions and propose recommendations to support and sustain their physical activity during and after COVID-19 or other pandemics. The findings of our study will inform stakeholder events across the UK including participants and policymakers to draw action plans together.

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**Ongoing.**
Funding

**Adopted:** Joint Programme for Neurodegenerative Diseases (JPND). Alzheimer’s Society

**Chief Investigator**

Professor Mari Carmen Portillo – University of Southampton

**Project Team Members**

Dr Maria Victoria Navarta – University of Navarra
Dr Lydia Lopez Manzanares – Hospital Universitario de la Princesa
Dr Line Bragstad – University of Oslo
Dr Lydia Lopez Manzanares – Hospital Universitario de la Princesa
Dr Line Bragstad – University of Oslo
Dr Lydia Lopez Manzanares – Hospital Universitario de la Princesa
Dr Line Bragstad – University of Oslo
Dr Lydia Lopez Manzanares – Hospital Universitario de la Princesa

Organisations Involved

National Parkinson’s Disease Associations (Denmark, Norway, Spain, UK), European Parkinson’s Disease Association

**What problem is the project looking to solve and how is it going about solving it?**

This ongoing project is looking at strategies that could help people live with Parkinson’s disease in the community through better use of resources and systems of support. Working with other organisations and community groups this project will test out an intervention improving the coordination of services and resources for people with Parkinson’s disease and family carers in 4 European countries.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

The overall aim of this project is to establish the feasibility and acceptability of an intervention that will enhance the lives of people with Parkinson’s disease (PD) and their family/carer. It will work to build a multisectoral care pathway, with a special focus on how to optimize the use of resources and systems of support in the community, for disadvantaged populations of different European countries.

We are introducing personalised assessments of needs and priorities, the role of a Parkinson’s disease coordinator, and navigation of resources in the community. In the UK we are working in collaboration with Hampshire and Isle of Wight Integrated Care System, Solent NHS Trust, and Parkinson’s UK.

Links to further information/publication:


**Project Status**

Ongoing.

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**OPTIM Park:**

Optimization of community resources and systems of support to enhance the process of living with Parkinson’s Disease: a multisectoral intervention (Linked to PARTNERS)

Funding

**PhD:** The project is led by an NIHR match-funded studentship

**Chief Investigator**

Professor Carol Clark – Bournemouth University

**Project Team Members**

Miss Rosie Harper – Bournemouth University
Dr Carly Stewart – Bournemouth University
Mrs Sally Sheppard – University Hospitals Dorset NHS Foundation Trust

Organisations Involved

University Hospitals Dorset NHS Foundation Trust, Bournemouth University

**What problem is the project looking to solve and how is it going about solving it?**

The problem the project is looking to solve is whether tailored nudging influences pelvic floor muscle training adherence in perinatal women.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

1. Whether the use of mobile apps improve pelvic floor muscle training in women
2. How humour influences women’s attitudes towards pelvic floor dysfunction online
3. Whether pelvic floor muscle training mobile apps can be integrated into a new perinatal health pathway
4. Whether digital ‘nudges’ from a mobile app significantly improves pelvic floor muscle training adherence compared to standard care

One of the outcome measures used in the intervention study will be the International Consultation of Incontinence Questionnaire (ICIQ) that measures severity of urinary incontinence (the ICIQ–UI).

**Project Status**

Ongoing.

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**Nudging:**

a theoretical concept for a very practical approach to pelvic floor muscle training
Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Professor Mari Carmen Portillo – University of Southampton

Project Team Members
Dr Line Bragstad – University of Oslo, Norway
Dr Dorit Kunkel – University of Southampton and Research Design Service
Dr Beatrice Sankah – University of Southampton
Dr Kat Bradbury – University of Southampton
Dr Lindsey Welch – University of Southampton
Dr Hayden Kirk – Solent NHS Trust
Dr Caroline Barker – University Hospital Southampton NHS Foundation Trust
Mrs Sandra Bartolomeu Pires – University Hospital Southampton NHS Foundation Trust
Prof Christopher Edwards – University Hospital Southampton, University of Southampton
Dr Lindsay Cherry – University of Southampton, Solent NHS Trust
Francesca White – Hampshire and Isle of Wight Integrated Care System (ICS)
Caroline Aylott – Versus Arthritis Organisation (National)
Cathal Doyle – Parkinson’s UK (National)

Organisations Involved
University of Southampton, University of Oslo, Solent NHS Trust, University Hospital Southampton NHS Foundation Trust, Hampshire & Isle of Wight Integrated Care System (ICS), Versus Arthritis, Parkinson’s UK.

What problem is the project looking to solve and how is it going about solving it?
Self-management is an approach to help people with long term conditions manage their health daily. Existing NHS self-management tools focus on healthcare (medication management, appointments) and fail to capture aspects of how people live with and adjust to long-term conditions. This includes social support (family/friends) and other resources and networks available like the voluntary sector, industry, and community groups. We have created an intervention (an action to improve a situation or prevent it getting worse) to support self-management for people with Parkinson’s Disease and their family/carers. This intervention recognises the role of social support, voluntary sector, industry, and community groups in adjusting to living with a condition. Our next step is to adapt this intervention to the needs of people living with other conditions like Arthritis and for those living with more than one condition and create a digital tool.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
The Partners project will generate a digital tool to support more effective self-management of people living with Parkinson’s Disease and/or Arthritis, recommendations for policy development and evidence on how to improve NHS services.
We will work with people living with Parkinson’s Disease and/or Arthritis and their families/carers. We will work together as equal project partners to define their level of involvement, roles, methods to input and training needs. We will also explore what works best or what we should do differently.
We will share our learning across the different groups involved. This will include presentations, policy briefings, newsletters, and public events.

Project Status
Ongoing.
Development of an integrated care model for patients and families living with long term neurological conditions

**Funding**
PhD: The project is led by an ARC Wessex funded PhD student

**Chief Investigator**
Mrs Sandra Bartolomeu Pires – University Hospital Southampton NHS Foundation Trust and University of Southampton

**Project Team Members**
Professor Mari Carmen Portillo – University of Southampton, NIHR ARC Wessex lead for Long Term Conditions Theme  
Dr Dorit Kunkel – University of Southampton, Research Design Service South Central  
Professor Christopher Kipps – University Hospital Southampton NHS Foundation Trust, Hampshire Hospitals NHS Foundation Trusts  
Professor Nick Goodwin – Central Coast Research Institute, The University of Newcastle, Australia

**Organisations Involved**
University Hospital Southampton NHS Foundation Trust, Hampshire Hospitals NHS Foundation Trusts, University of Southampton, Southampton Academy of Research, Wessex Academic Health Science Network, Parkinson’s UK, Huntington’s Disease Association, MS Society

What problem is the project looking to solve and how is it going about solving it?

People living with long term neurological conditions have complex needs, which are not being fully met at present. This reduces their quality of life and increases costs to society. According to a survey in 2019, 90% of patients had not been offered a care plan. Problems with services not matching people’s needs have been identified, particularly in mental health, finance, and social care. These patients have the lowest health-related quality of life of any long term condition, according to NHS England.

To address the needs of patients, the World Health Organization advises better coordination between different care services - This is called “integrated care”. Integrated care has shown benefits in other conditions but there is a lack of evidence in long term neurological conditions. It is not clear what integrated care means, and how it can be delivered for those with long term neurological conditions.

This study will focus on the needs and preferences of people living with Parkinson’s disease, Huntington’s disease, and Multiple Sclerosis, by:

1. Reviewing the evidence on how integrated care is provided internationally  
2. Undertaking a UK wide survey to identify exemplar systems of integrated care followed by in-depth interviews to explore how care is currently delivered and experienced  
3. Reaching consensus between different stakeholders on a model of integrated care and core outcomes for people living with these conditions

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

This research project will explore the similarities and differences across long term neurological conditions and strategies for implementation of an integrated care model in practice.

This project will characterise current care delivery and the experience of service users, showing the gaps in care and the changes needed in the system to meet the needs of people living with long term neurological conditions. It will inform the implementation and evaluation of the care model at post-doctoral level. This will result in a cost-effectiveness evaluation of the model and impact on service users’ outcomes. The anticipated long term impact of this study is that better system integration will result in improved outcomes for service users at no or reduced costs for health and social care systems. This knowledge is potentially transferable to other rare and prevalent long term neurological conditions – the biggest cause of disability worldwide.

Links to further information/publication:
Prospero registration link for the systematic literature review: https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=314740

**Project Status**
Ongoing.
Medicines Optimisation: Improving safety and reducing treatment burden among people taking non-steroidal anti-inflammatory drugs or disease modifying anti-rheumatic drugs

Long Term Conditions

Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Dr Simon Fraser – University of Southampton

Project Team Members
Professor Chris Edwards – NIHR Clinical Research Facility
Dr Chris Holroyd – University Hospital Southampton NHS Foundation Trust
Dr Kinda Ibrahim – University Hospital Southampton NHS Foundation Trust
Dr Ravina Barrett – University of Portsmouth
Dr Clare Howard – Academic Health Sciences Network (AHSN) Wessex
Ms Mary O’Brien – NHS Rightcare
Dr David Culliford – University of Southampton
Professor Paul Roderick – University of Southampton
Professor Jo Adams – University of Southampton
Professor James Batchelor – University of Southampton
Dr Matthew Stammers – University Hospital Southampton
Prof Paul Rutter – University of Portsmouth
Dr Nicola Barnes – University of Portsmouth
Dr Thomas Phillips – University Hospital Southampton NHS Foundation Trust
Dr Anna Humphreys – University of Southampton

Organisations Involved
University Hospital Southampton NHS Foundation Trust, NHS England (NHS Rightcare), University of Portsmouth, University of Southampton, Academic Health Sciences Network (AHSN) Wessex.

What problem is the project looking to solve and how is it going about solving it?

Painful conditions are common and safe pain relief options for older people are limited. Anti-inflammatory drugs (‘NSAIDs’) are widely used but have significant risks, such as bleeding from the stomach and kidney damage. Another issue concerns people taking ‘disease-modifying anti-rheumatic drugs’ (DMARDs). These drugs are used for rheumatoid arthritis and inflammatory bowel diseases, such as Crohn’s disease. Methotrexate is a commonly used DMARD in arthritis and azathioprine is commonly used in inflammatory bowel disease. Anti-TNF drugs are a group of so-called ‘biological’ DMARDs. DMARDs are powerful drugs that require regular blood tests to check for adverse effects, such as liver problems. These blood tests are often normal, and it might be safe to do them less frequently for some people. Some people with arthritis have an excellent response to DMARDs. Stopping DMARDs can lead to flare ups of disease, but the amount of therapy used may be tapered successfully to reduce dose-dependent adverse events and costs. We have used an anonymous database of 700,000 people from Hampshire GP practices and found many people prescribed NSAIDs. We have identified those at high risk of kidney damage and are working with GPs to explore ways of stopping NSAIDs.

Separately, we are examining blood tests among people taking DMARDs. We have identified people at low risk of blood test abnormalities and have identified where more targeted testing strategies might be appropriate. We are currently looking at those who have reduced their dose of anti-TNF drugs, identifying which kinds of patients tend to succeed in doing this.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

At the end of the project, we will know the following:

1. In the population of people taking NSAIDs: who is at high risk of kidney problems
2. In the population of people taking the DMARDs methotrexate and azathioprine: who might be at low risk of DMARD-related problems and could potentially reduce the frequency of monitoring blood tests
3. In the population of people on Anti-TNF agents: who might be able to taper down their dose

This research has the potential to reduce kidney complications for people taking NSAIDs.

It also has the potential to reduce the burden on patients and on the NHS by reducing the frequency of blood tests and/or medication burden for people taking DMARDs.

The results of this research are being shared with relevant doctors, nurses and patient groups across Wessex through workshops and other activities, so it makes a difference locally.

We have also published two papers in academic journals so far, presented our findings at conferences and discussed the DMARD findings in a podcast.

Links to further information/publication:
Characterising risk of non-steroidal anti-inflammation drug-related acute kidney injury: a retrospective cohort study
Persistently normal blood tests in patients taking methotrexate for RA or azathioprine for IBD: a retrospective cohort study

Project Status
Ongoing.

https://www.familiesinbereavement.org.uk
ARC news article: https://www.arc-wx.nihr.ac.uk/news/southampton-led-study-shows-need-for-painkiller-caution-to-prevent-kidney-damage/
https://bjgp.org/content/early/2022/03/09/BJGP.2021.0595
BJGP podcast on DMARDs: https://bjgp.org/audio
https://www.arc-wx.nihr.ac.uk/news/southampton-led-study-shows-need-for-painkiller-caution-to-prevent-kidney-damage/
Change in treatment burden among people with multimorbidity – a follow up survey and development of efficient measurement tools for primary care

What problem is the project looking to solve and how is it going about solving it?
Many people live with multiple long-term health conditions. Having several long-term conditions means managing their differing demands, such as attending many appointments and making lifestyle changes. This workload and its impact are called ‘treatment burden’. Some people may feel ‘overburdened’ by everything they have to do to look after their health.

In 2019 we conducted a survey of 800 people in Dorset with three or more long-term health conditions and measured treatment burden using a questionnaire. About one in five people reported ‘high’ treatment burden. We have followed up 301 of these people and about a third have experienced increased treatment burden. However, using a questionnaire like this to measure treatment burden in most NHS settings is probably not practical. We are exploring whether we could assess treatment burden just using NHS databases.

In this research we are doing three things:
1. Exploring things that are associated with the change in treatment burden over time
2. Refining a single treatment burden question to see if it reflects the questionnaire findings
3. Collecting information from GP computer systems about the people in the survey to compare this with their survey-measured, self-reported treatment burden. We hope to develop a way whereby GPs could identify potentially overburdened people without having to ask patients to complete questionnaires.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
At the end of this research, we will understand more about what leads to worsening treatment burden for people with multiple long-term conditions. This can help us in working out the best ways to prevent or reduce that burden.

We will also understand whether risk of high treatment burden can be identified by a single question or by certain aspects that are easily found within GP data.

We anticipate two main benefits of this:
1. Identifying those experiencing worsening burden can help services re-organise aspects of healthcare to make it easier for patients and find better ways of supporting them
2. Developing a way for GPs to check who might be over-burdened by asking a simple question or running some checks on their database could help them in their efforts to support patients and reduce unnecessary burden.

Links to further information/publication:
Study protocol:
Change in treatment burden among people with multimorbidity: protocol of a follow up survey and development of efficient measurement tools for primary care. PLOS ONE 2021
Here: https://doi.org/10.1016/S0140-6736(21)02597-6
Study findings:
Change in treatment burden among people with multimorbidity: a follow-up survey. BJGP 2022
Here: https://bjgp.org/content/early/2022/05/04/

Project Status
Complete.
Developing a Multidisciplinary Ecosystem to study Lifecourse Determinants of Complex Mid-life Multimorbidity using Artificial Intelligence (MELD)

Organisations Involved
University of Southampton.

What problem is the project looking to solve and how is it going about solving it?
As with many countries we are facing challenges related to the growing number of people living with multiple long-term health conditions like diabetes, heart disease or dementia. All the way through peoples’ lives many things influence the chances of developing such conditions. This includes some things that are hard to research - broader issues throughout life such as the environment people grew up in, their education, work, and so on. Sadly, people from more socially and economically disadvantaged backgrounds are more likely to develop multiple conditions at an earlier age. There is also evidence that the order of developing conditions varies considerably and influences what then happens to people. This makes understanding these broader issues and how they affect that order vital to inform when and how we should intervene to prevent conditions developing.

To achieve this, we need to study large numbers of people over their whole lifetime, but such datasets do not exist. Very large health datasets collected from NHS GPs are helpful but haven’t been running long enough to track from birth to later life. They include lots of information on long term conditions but not much about broader issues.

In our Development Award (called ‘MELD’) we had access to one such dataset of about 700,000 people, which we used to identify health conditions. We also accessed data from the ‘1970 British Cohort Study’ – a long-running research study called a ‘birth cohort’ - about 17,000 people born in the same week of 1970 followed throughout their lives. This provided detailed information about many broader issues every few years up to age 46 for about 8000 people from across the country.

Our aim was to safely and ethically establish the necessary environment, systems, and methods to allow artificial intelligence (‘AI’) techniques to ‘connect’ birth cohort data with large GP datasets. This would allow us to connect information on the broader, lifetime issues with GP information on long term conditions.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
We explored these AI ‘transfer learning’ methods between datasets but technically this is difficult to do, and we encountered some problems. Despite this we made some important ‘proof of principle’ achievements. We identified the kinds of people who developed certain combinations of burdensome long term conditions by middle-age. We also identified the order of developing long term conditions and which ones developed first using specific examples. We explored how broader issues influenced the resulting combination of conditions. Importantly, we built up our team by bringing in expertise that will be needed for the future Research Collaboration (called ‘MELD-B’ and submitted our application to NIHR. In this future Research Collaboration we will apply everything we learned in MELD to three birth cohorts and two much larger routine datasets to estimate the risk at different life stages and identify key time points for targeted public health interventions. We will also have a Patient and Public Advisory Board overseeing the whole project and engaged with every step, and a whole section of the work dedicated to dissemination and engagement, so we make sure that our work will have impact.

Links to further information/publication:
Presentation: Lancet UK Public Health Science Conference 2021 and Lancet abstract publication: https://www.thelancet.com/journals/lancet/article/PiIs0140-6736(21)02597-6/fulltext

Project Status
Complete.
What problem is the project looking to solve and how is it going about solving it?

Sexual difficulties are reported to be one of the most frequent, distressing, and persistent consequences of cancer and its treatment. However, despite the availability of both numerous interventions to treat sexual difficulties and models to help healthcare professionals communicate about sexuality, many patients continue to report that they do not receive supportive care from the hospital cancer team for these issues. Furthermore, if sexual concerns are discussed then the focus is often only on physical concerns.

This mixed methods project is aiming to further illuminate the barriers to and facilitators for care for the sexual health of cancer survivors and their intimate partners. The initial quantitative phase will be a national, online survey of cancer survivors and their intimate partners. This survey will provide broad information about experiences of care and will explore perceptions of potential barriers and facilitators. The subsequent qualitative phase will take place at Dorset County Hospital NHS Foundation Trust and will involve semi-structured interviews exploring the lived experiences of the receipt and provision of care for sexual health in an oncology setting.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

At the end of the project, we will have a deeper understanding of the barriers to and facilitators for care for sexual health in oncology. It is anticipated that the use of the critical realist paradigm will help to achieve this deepening of understanding. These findings may be used to create an intervention to help improve the provision and receipt of care for sexual health for cancer survivors and their intimate partners. Sexual wellbeing is thought to be an important component of overall wellbeing and it is hoped that the findings may lead to improvements in both areas.

Project Status
Ongoing.
Professor Peter Griffiths is Chair of Health Services Research and lead for the Health Workforce and Systems research group at the University of Southampton.

“Despite huge technological advances, delivering health care is an essentially human activity, which remains labour intensive. Ensuring we have the right workforce and organisation to deliver high quality and safe care with humanity, now and in the future, is the ultimate aim of my research”
Funding
PhD: The project is led by an ARC Wessex funded PhD student.

Chief Investigator
Mrs Anna Badley – Solent NHS Trust and University of Southampton

Project Team Members
Professor Jane Ball – University of Southampton
Dr Joanne Turnbull – University of Southampton
Dr Sarah Williams – Solent NHS Trust
Professor Jill Maben – University of Surrey

Organisations Involved
University of Southampton, Solent NHS Trust, University of Surrey.

What problem is the project looking to solve and how is it going about solving it?
This project is part of a PhD funded by ARC Wessex exploring work pressure in UK community nursing.

Community nurses are an essential part of the nursing workforce in the UK. Providing care in peoples’ homes, community nurses play a vital role managing long term conditions, end of life care, acute management in a home setting and preventing avoidable hospital admission. UK healthcare policy continues to recognise the key role of community provision by setting ambitions to increase community-based care.

This community focus is also reflected within research nationally, with clear strategic ambition to increase community-based research.

Despite their importance, community nursing numbers are declining. There is a distinct lack of community nursing workforce research and therefore little empirical understanding of community nursing workforce outcomes such as staffing levels, retention, and burnout.

Pressure is a term that is frequently used in nursing discourse and policy to describe nursing workforce contexts, but there is no recognised definition. This project will seek to understand and define pressure in a community nursing context and explore the viability of pressure as a community nursing workforce outcome.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
We hope that this project will provide understanding on current workforce outcomes in UK community nursing, provide a theoretical and empirical understanding of ‘pressure’ in UK community nursing contexts and begin to explore the use of pressure as a potential outcome measure for the UK community nursing workforce.

Project Status
Ongoing.
Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Dr Carlos Lamas-Fernandez – University of Southampton

Project Team Members
Professor Peter Griffiths – University of Southampton
Dr Antonio Martinez-Sykora – University of Southampton
Dr Thomas Monks – University of Southampton
Dr Asyl Hawa – University of Southampton

Organisations Involved
University of Southampton, Solent NHS Trust, Abicare Services Ltd.

What problem is the project looking to solve and how is it going about solving it?
In the context of an ageing population, the demand for health and social care services that can care for patients in their own homes has been growing in recent years. These teams are often integrated by staff members with different skills and working patterns and need to care for a group of patients with different requirements, preferences and availabilities. This gives rise to a complex routing and scheduling problem that needs to be solved daily. These problems are well known in academia, particularly in Operational Research (OR), an area of mathematics. Despite the existence of very sophisticated solving algorithms for similar problems, their complexity and sometimes idealised nature makes it impossible for teams to adopt them, and instead they often resort to manual planning. It is very difficult for manual planning of home visits to achieve all its aims. To make this problem simpler in practice large regions are broken down into smaller regions, or distances and times are approximated. Such approaches work but are likely to be missing benefits for patients and efficiency savings for the NHS offered by looking at the problem as a whole.

The aims of this project are to work closely with health and social care providers to understand the planning requirements as they happen in practice, and to develop algorithms and mathematical models to describe the problem with enough flexibility to be useful in practice. These algorithms have been integrated in accessible software and preliminarily tested with a social care collaborator.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
The project has brought an understanding of the practical requirements of planning faced by health and social care teams. Accurate mathematical models to represent this problem are now present, alongside an efficient solving algorithm.

During the project we were able to implement them in a software tool, which is currently being tested with a social care provider. Early results have shown potential to save travel and waiting time for carers, as well as the time of the planners themselves.

Links to further information/publication:
https://www.arc-wx.nihr.ac.uk/research-areas/workforce-and-health-systems/improving-community-health-care-planning/

Project Status
Ongoing.
What problem is the project looking to solve and how is it going about solving it?

PROCED aims to improve complex hospital discharge by using computer algorithms to support the way community and social care services are planned for patients fit to leave hospital.

The goal is to avoid patients staying in hospital longer than needed when they are well enough to be discharged. Leaving hospital at the right time is better for patients for many reasons. It reduces physical and mental deconditioning and chance of hospital infections. It also allows patients to recover with families, friends, and carers.

By planning care earlier during hospital stays, PROCED aims to provide more time for patients and families to discuss care needs with care workers. Also, integrated care services are expected to be more efficient as resources can be planned using better predictions of patient needs.

To achieve this, PROCED will develop computer algorithms that can predict patient discharge risks and schedule care services. Predictions will be developed using machine learning. Machine learning is a way to train a computer by using data about patients and the services they use. Scheduling will use optimisation algorithms to find the best use of resources from available options. The prediction and scheduling algorithms will be integrated within a discharge decision process. The process will be part of a patient journey co-designed with patients and healthcare workers. The algorithms will be tested to ensure they are accurate and useful, and the approach will be assessed by patients and the workforce for acceptance and overall satisfaction.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

At the end of the project, we will have a better understanding of the challenges affecting the flow of patients requiring onward care from hospital to the community. We will have mathematical models and algorithms that are able to suggest discharge decisions to the stakeholders involved in the discharge. These decisions will consider both the patients in hospital (including those awaiting to be medically discharged) and the status of services in the community, improving the discharge flow and helping make more informed and transparent decisions. Furthermore, the study will work closely with the hospital on implementation, with the objective of formally assessing the potential of algorithms to improve outcomes and be implemented in practice.

Links to further information/publication:
https://www.arc-wx.nihr.ac.uk/research-areas/workforce-and-health-systems/proced-proactive-collaborative-and-efficient-complex-discharge/

Project Status
Ongoing.
Feasibility of collecting and using nursing shift patterns data in acute, community and mental health wards

What problem is the project looking to solve and how is it going about solving it?
Nurses and care assistants form the largest group of NHS staff. Most work in services that provide care across 24-hours of the day. Research indicates that the organisation of nursing shift patterns might affect the productivity of health services. The introduction of long shifts in nursing was offered as a strategy to maintain service levels while eliminating overlaps. However, research has found that long shifts are associated with higher rates of sickness and poorer patient care. So far, there has been little research exploring individual factors influencing shift work experiences among nurses, and research has been largely confined to acute hospitals.

The aim of this research is to provide evidence to support decision making about deployment of nursing shift patterns on acute, mental health and community hospital wards in England. To do this we will:

1) Understand how shift work may impact on the experience of work and productivity from the nurses’ perspective, including an assessment of preferences and constraints through a survey
2) Determine the availability and quality of nurse and patient routinely collected data
3) If data are of good quality, measure associations between shift patterns, workforce characteristics and outcomes including nurses’ sickness.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
We will have a better overview of the preferences and views of nurses when it comes to shift patterns, including elements that drive their choices. This will enable us to start planning modifications to shift patterns according to what is feasible for nurses. Improved shift patterns might lead to more nurses staying in their jobs, reduced sickness absence for nurses and higher safety for patients.

In addition, we will be able to understand whether studies using routinely collected data from nurses’ electronic rostering systems from acute care hospitals can be replicated in mental health and community hospitals. This will be the first study that will link objective nurses’ shift data to objective patient outcomes. None of the previous studies were able to link shift patterns of nurses to what patients actually experienced. Thanks to this study, we will be able to understand which shift patterns might be safer for patients.

Links to further information/publication:
Nurses’ experiences and preferences around shift patterns: A scoping review
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0256300

Project Status
This project is ongoing and due to finish September 2022.
Identifying wards for which the Safer Nursing Care Tool is appropriate for assessing nurse staffing requirements

What problem is the project looking to solve and how is it going about solving it?
It is important to have enough qualified (registered) nurses looking after patients staying on hospital wards, because having too few is associated with worse patient care and more patient deaths. The Safer Nursing Care Tool (SNCT) is used in many hospital wards in England to work out the number of nursing staff needed. This is based on the severity of patients’ conditions as well as how dependent on nursing care they are. However, there is little evidence about factors that affect how well the SNCT or similar tools work on different types of hospital wards.

This study aims to assess how well the SNCT predicts staffing requirements on hospital wards, and to use professional judgement to generate hypotheses about factors associated with a “poor fit”.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
Of the 69 wards, 40% of wards were frequently understaffed, while frequent overstaffing was less common (12%). ¼ of wards needed a sample of over half a year to estimate the number of staff required precisely.

Nursing workforce leads suggested the following reasons why the tool may fit poorly on some wards: high turnover, older patients, high levels of 1-to-1 care, cancer care, small ward size and high variation in demand within a day.

We know now that using a staffing tool without applying professional judgement or triangulating against other methods can lead to inaccurate estimates of staffing requirements and unsafe staffing levels. Despite the availability of software to calculate staffing requirements, application of professional judgement remains essential.

We are working with NHS Improvement/England on a professional judgement framework to help managers making nurse staffing decisions on hospital wards.

Project Status
The project is complete.

Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Dr Christina Saville – University of Southampton

Project Team Members
Professor Peter Griffiths – University of Southampton
Mrs Rosemary Chable – University Hospital Southampton NHS Foundation Trust
Ms Nicky Sinden – Portsmouth Hospitals NHS Trust
Ms Tracy Moran – Poole Hospital NHS Trust

Organisations Involved
University of Southampton, Portsmouth Hospitals NHS Trust, Poole Hospital NHS Foundation Trust, University Hospital Southampton NHS Foundation Trust.

Links to further information/publication:
What problem is the project looking to solve and how is it going about solving it?

COVID-19 has forced rapid, accelerated change within the NHS to embrace digital innovations such as remote consultation and remote monitoring. Remote interactions not only reduce infection rates by reducing physical contact but offer new ways of delivering emergency care.

ARC Wessex supported research to explore COVID patient risks (deterioration, admission, and readmission) in community settings working with Hampshire Hospitals NHS Foundation (HHFT) Trust as part of the COVID oximetry @ home programme. Dr. Inada-Kim (National Clinical Lead Deterioration & National Specialist Advisor Sepsis, NHS England and NHS Improvement, and Emergency Consultant at HHFT) who was working at the forefront of UK’s COVID-19 emergency response and policymaking, highlighted the need for risk prediction tools on triage and admission to emergency care. Evidence shows that early identification of physiological deterioration risks improves patient outcomes through timely and appropriate interventions, including escalations to higher levels of acute care through hospital admissions and intensive care.

PPDRCOMM research developed predictive models for escalation from secondary care to hospital. Models used near-patient observation data (e.g., temperature, respiration rate, and blood oxygen levels), patient demographics, and comorbidities from patients in the community who are in the early stages of a COVID-19 infection.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

Through collaboration with ARC Wessex and North Hampshire Integrated Care Partnership, the project supported the design of digital solutions for remote monitoring. The research validated home oxygen saturations as a marker of clinical deterioration in patients with suspected COVID-19. The evidence informed policy, whilst a service evaluation of COVID oximetry at home found significant association with better outcomes for monitored patients. Dr. Matt Inada-Kim, said:

“The COVID oximetry at home project demanded very rapid, large scale collaboration between clinical teams, managers and academic partners. The University of Southampton have been critical in assisting data capture, establishing data sharing agreements and collating the evidence to rapidly stand up national policy on admission criteria in COVID and home oximetry monitoring and evaluation of its effectiveness”.

COVID oximetry @ home was awarded the Health Service Journal Patient Safety Award 2021 (HSJPSA) and the research conducted by ARC Wessex played a significant role in the capture and use of data vital to the success of the programme.
COVID-19 Emergency Department Project

Funding
Core: Project has been funded by ARC Wessex

Chief Investigator
Professor Michael Boniface – University of Southampton

Project Team Members
Dr Derek Sandeman – University Hospital Southampton NHS Foundation Trust
Dr Thomas Daniels – University Hospital Southampton NHS Foundation Trust
Dr Michael Kluber – University Hospital Southampton NHS Foundation Trust
Neil Tape – University Hospital Southampton NHS Foundation Trust
Martin Azor – University Hospital Southampton NHS Foundation Trust
Dr Matthew Stammers – University Hospital Southampton NHS Foundation Trust
Dr Hang Phan – University of Southampton
Dr Francis Chmiel – University of Southampton
Dr Daniel Burns – University of Southampton
Professor Ben MacArthur – University of Southampton
Professor Dave Woods – University of Southampton

Organisations Involved
University of Southampton, University Hospital Southampton NHS Foundation Trust.

What problem is the project looking to solve and how is it going about solving it?
The COVID-19 pandemic was creating an unprecedented demand for acute care services. Hospitals faced the challenge of needing to rapidly restructure care pathways and resourcing priorities to maximise survival rates for critically ill patients. University Hospital Southampton (UHS) needed rapid evidence-based tools to support clinical and resource planning decisions in response to the pandemic. Until recently, UHS had insufficient information regarding the prevalence of COVID-19 in populations and the consequent expected demand, patient trajectories through pathways and the optimal resources needed to maintain care levels. COVID-19-ED provided rapid response insight to forecast impact of COVID-19 on University Hospital Southampton occupancy by patients considering acuity of beds and age. COVID-19-ED was delivered by expertise across data science, theoretical physics, systems engineering, statistics, mathematical biology and systems dynamics modelling from an interdisciplinary team across the University (Medicine, Faculty of Engineering and Physical Sciences FEPS and Faculty of Social Sciences) working closely with emergency care and informatics staff within UHS.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?
COVID-19 ED delivered a series of models and insight throughout the phases of the COVID-19 pandemic first wave (alert, pre-peak, post-peak, recovery). Approaches were adapted through experimentation and as new information became available to the team. Initially a 10-day rapid response was required by the team balancing timeliness and precision of answers. Little was known about COVID-19 and a simple approach was developed to forecast the time and size of the first peak. The model was then extended to consider actual hospital data along with the prevalence of infected people in communities and occupancy types such as general or intensive care beds. Finally, the impact of social distancing was incorporated to modify community transmission rates allowing UHS to run what if scenarios considering future assumptions about social distancing policies from the UK government. COVID-19-ED provided a source of rapid insight response for UHS at a time when they had little information to plan resources.

Links to further information/publication:
https://www.arc-wx.nihr.ac.uk/research-areas/covid-19-projects/covid-19-emergency-department-project/

Project Status
Complete.
The career aspirations of nurses working in the research delivery workforce: a cross-sectional survey

Funding

Post Doc: The project is led by an ARC Wessex funded Post-Doctoral Student

Chief Investigator

Dr Miriam Avery – University of Southampton and University Hospital Southampton NHS Foundation Trust

Organisations Involved

University of Southampton, University Hospital Southampton NHS Foundation Trust.

What problem is the project looking to solve and how is it going about solving it?

We know that nurse-led research in health and social care is crucial to enable nurses to deliver high quality care based on the best available evidence. Nurse-led research is being generated within higher education institutions and a small number of NHS roles, but nurses remain an under-represented group in health services research. There is a clear capacity problem for nurse-led research.

Within the NHS, the largest group of nurses working in research are in research delivery roles. This section of the nursing workforce has experience, skills, and competencies in delivering research within a health and social care environment from start to finish. All these skills are of prime importance when designing and leading a research study. However, as there is little published data on the career aspirations of this group of nurses, the extent to which they have the desire to progress an independent researcher career and build capacity for nurse-led research is unknown.

The aim of the study is to undertake an online survey of nurses working in research delivery roles in local acute NHS Trusts to determine the career aspirations of this group of nurses. The study is at a very early stage, with the research proposal and protocol in the process of being developed. We expect the set-up and recruitment phase to be completed by the autumn of 2022.

What will we know at the end of the project that we didn’t know before? How will the findings be used to improve clinical outcomes, public health or social care?

This study is in the early stages of development. The planned online survey includes questions around the current activities of nurses in research delivery roles, as well as training, skills, competencies, and career aspirations. The findings from the survey will provide much needed data about the aspirations of this group of nurses, which will determine the next phase of this research project. If there is aspiration for independent research amongst a section of this workforce, then there is an urgent need to facilitate progression along this career path.

Project Status

Ongoing.
Our Internships

ARC Wessex has funded more than 20 internships to encourage clinicians and health care workers to take their first steps into research. The opportunity allows them 6 months to work with the ARC Wessex research teams and build the knowledge and skills to help them develop a research career. Below is a list of our interns and their projects:

<table>
<thead>
<tr>
<th>Theme</th>
<th>Project title</th>
<th>Lead</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ageing and Dementia</td>
<td>Urine output: how and why it is monitored in acute medical environments?</td>
<td>Dr Camilla Holmes</td>
<td>University Hospital Southampton NHS Foundation Trust</td>
</tr>
<tr>
<td>Ageing and Dementia</td>
<td>Comprehensive medication review using the validated STOPP-START toolkit in haemodialysis patients identified to have a frailty score of 3 or more using the validated widely used clinical frailty scale (CFS).</td>
<td>Mrs Cathy Pogson</td>
<td>Portsmouth Hospitals University NHS Trust</td>
</tr>
<tr>
<td>Ageing and Dementia</td>
<td>What are older people’s experiences of frailty prevention interventions in acute hospitals? A scoping review</td>
<td>Ms Deborah Butler</td>
<td>University Hospitals Dorset</td>
</tr>
<tr>
<td>Ageing and Dementia</td>
<td>How are the physical health needs of older people addressed in older peoples mental health (OPMH) ?- A systematic review of literature</td>
<td>Mrs Naomi Purdie</td>
<td>Southern Health NHS Foundation Trust</td>
</tr>
<tr>
<td>Ageing and Dementia</td>
<td>Establish current practice and challenges in the treatment of pubic rami fractures</td>
<td>Mr Samuel Page</td>
<td>Dorset County Hospital NHS Foundation Trust</td>
</tr>
<tr>
<td>Ageing and Dementia</td>
<td>Biomarker Research Assessing Inflammation in Neurodegeneration</td>
<td>Dr Sofia Michopoulou</td>
<td>University Hospital Southampton NHS Foundation Trust</td>
</tr>
<tr>
<td>Ageing and Dementia</td>
<td>Dementia, Ageing, Radiography, Neuroimaging/ Clinical Neuroscience</td>
<td>Dr Theo Akudjedu</td>
<td>Bournemouth University</td>
</tr>
<tr>
<td>Ageing and Dementia</td>
<td>Is there a link between Covid 19 and developing Dementia?</td>
<td>Mrs Victoria Tweedy</td>
<td>Dorset County Hospital NHS Foundation Trust</td>
</tr>
<tr>
<td>Ageing and Dementia</td>
<td>Optimisation of nutrition and frailty prior to cardiac surgery</td>
<td>Ms Jo Murfin</td>
<td>University Hospital Southampton NHS Foundation Trust</td>
</tr>
<tr>
<td>Healthy Communities</td>
<td>Are school motor skill programmes that are designed by occupational therapists, physiotherapists and/or educational psychologists but delivered by school staff effective in improving the motor skills of typically developing children aged between 4-11 years with motor skill difficulties and therefore improving functional tasks?</td>
<td>Ms Janet Cavolina</td>
<td>University Hospitals Dorset</td>
</tr>
<tr>
<td>Healthy Communities</td>
<td>Identifying hidden vulnerabilities in patients who present with Major Trauma: a retrospective case note review to inform service development</td>
<td>Ms Lauren Green</td>
<td>University Hospital Southampton NHS Foundation Trust</td>
</tr>
</tbody>
</table>