National Institute for Health Research

Highlight Notice

NIHR Theme: Complex Health and Care Needs in Older People

Supporting research to improve outcomes for older people with complex health and care needs

The National Institute for Health Research (NIHR) welcomes proposals for clinical and applied health research into the evaluation of healthcare interventions, health services, social care or public health measures for older people with complex health and care needs. For this highlight notice, complex needs are defined as the presence of more than one health or social care need (impacting on health) as well as a depth of need in terms of the severity of the conditions or intensity of the needs.

This highlight notice indicates the continuing interest of NIHR programmes and research funding schemes in receiving research proposals in this area to improve outcomes for patients', the public and the delivery of NHS services. NIHR welcomes and is keen to encourage applications that span the remit of one or more NIHR programmes.

Background

Over 16 million people in the UK live with one or more long-term health conditions. Treatments associated with these conditions account for 70% of NHS expenditure.[1] The aging population and the increase in the numbers of patients with more complex heath needs pose a growing challenge to society and the NHS. Although there is a strong clinical evidence base for the management of individual diseases, there is very little evidence relating to the risks associated with multimorbidity,[2] polypharmacy or the issues of most importance to patients.

In 2014, multimorbidity in older people was identified as a priority issue for NIHR research. A stakeholder workshop was organised in collaboration with the Royal College of General Practitioners (RCGP)[3] and NIHR launched this as a Themed Call in January 2015.

Building on the NIHR research programmes and the Themed Call a second workshop was held in November 2016 with the research community. This considered the challenges and context for research, broadening the issue of multimorbidity to "Older People with Complex Health Needs".

[1] Department of Health (2012). Report. Long-term conditions compendium of Information: 3rd edition
[2] Multimorbidity is defined as the co-occurrence of two or more chronic diseases in an individual.
[3] Hobbs FDR *et al.* Br J Gen Pract, 2015; 65 (633): e215-e216

This workshop also identified important research themes to guide future NIHR research calls, outlined below while noting that the use of the term 'older' does not imply people over any specific age.

The NIHR welcomes all relevant applications, and particularly those addressing the key themes identified at the stakeholder workshop.

Research Themes

Theme 1: Frailty

Around 6.5% of people aged over 60 years have frailty in England, rising to 65% of those aged over 90 years.[4] Frailty can be viewed as a long-term condition, and it is believed some aspects may be improved with appropriate interventions or therapy.

Many older people may not recognise themselves as frail or want to be considered as such. However, identifying people with frailty is important to enable a fuller assessment of health needs and the provision of appropriate interventions. Common co-morbidities such as dementia often contribute to frailty, making health and social care needs more complex.

There is a need for better evidence to support the early identification of frailty and the use of particular interventions that may slow or prevent further declines in health, particularly for patients with complex health or social care needs.

Research questions identified within this theme include:

- Can patients be identified before the onset of frailty to prevent further decline in health?
- What interventions might help the assessment and management of frailty, particularly to address the impact of social deprivation and reduce inequalities in health outcomes?
- How can we reduce the loss of independence that often affects older patients following discharge from hospital?
- What targeted interventions can support frail elderly people with complex health needs to achieve better surgical outcomes?

Theme 2: Transitions in care, service delivery and models of care

The current provision of care is often focused on the management of individual conditions rather than the use of multi-disciplinary care planning and coordination. Patients with complex health needs often move across service boundaries and integrated services are essential to close gaps in provision. Poorly planned and coordinated transitions can be detrimental to a patient's health and well-being.[5]

There is substantial variation in practice across the country affecting information sharing between services or avoiding issues such as poorly scheduled appointments. Cost effective

[4] Gale CR *et al*. Age and Ageing. 2015; 44(1): 162-165.

[5] Ellins J *et al*. NIHR Service Delivery and Organisation programme; 2012.

service models are urgently required to deal with the need for care planning and coordination between service providers.

Research questions identified within this theme include:

- What is the best model for delivery of primary care to elderly patients with complex health needs?
- How can services make best use of specialist input to primary care and which models of specialist care best support patients with complex health needs?
- Who is best placed to coordinate joined up care?
- How should services be configured to ensure people get "whole person" care?
- How can transitions of care be better managed?
- Which initiatives best support coordinated care for cognitively impaired people in hospital?
- How can we develop and support generalist skills in specialist clinical staff?

Theme 3: Medicines management/polypharmacy

Polypharmacy is commonly defined as the concurrent use of at least four medications. Approximately 40% of people over the age of 65 experience polypharmacy, and this is particularly common in patients with complex health needs, who require treatment for more than one condition.

Polypharmacy can cause significant treatment burden and is associated with medication-related hospital admission. For example, adverse drug reactions are associated with between 5% and 6% of emergency admissions across all ages and 11% of hospital admissions in over-65s.[6]

Ensuring "appropriate polypharmacy", where medicines use has been optimised and where medicines have been prescribed according to the best evidence, is difficult as polypharmacy is rarely considered within clinical trials or guidelines, which almost exclusively focus on single conditions. Additionally, recommendations are often focussed on commencement of treatment and are not balanced by comprehensive guidance on when it might be appropriate to stop medications.

It is recognised that medication management decisions in older people with complex health needs are difficult, with prescribers and patients often struggling to balance benefit and harm. Factors such as particular co-morbidity combinations, patient age and overall health status, fear and non-compliance require careful consideration when prescribing new medications. As a result, GPs are often faced with difficult decisions and are often lacking appropriate evidence-based guidance to support them.

There is an urgent need for further evidence to support prescribing and de-prescribing decision making.

[6] Kongkaew C *et al.* The Annals of Pharmacotherapy 2008. 42(7): 1017-25.

Research questions identified within this theme include:

- Are medication reviews being used effectively to optimise treatment regimens?
- How can we reduce the burden of treatments in patients with complex health needs?
- What is the role of family members and carers in the delivery of daily medications at home?
- Can prediction tools be used so patients only receive treatments likely to be of significant benefit to them?
- When do the benefits of continuing with preventive medication become marginal?
- Which preventive medications can be safely withdrawn in patients, particularly those with limited life expectancy?
- Can stopping rules be implemented for certain medications in patients with complex health needs?
- How can we avoid significant drug interactions in patients with complex health needs?
- What are the issues influencing de-prescribing and decision-making by clinical staff?
- Is adherence to medication a significant issue in patients requiring multiple treatments?
- How can we effectively manage transitions between treatment regimens, considering the needs of the patients and their carers?
- What is the role for pharmacists in managing treatment regimens in patients with complex health needs?

Theme 4: Promoting healthy ageing/preventing ill health

With increasing life expectancy, there is a need to ensure that older people can remain independent and in good health. Interventions which support older people to make healthier choices such as increasing physical activity levels, reducing alcohol consumption, eating a healthy diet, achieving a healthy weight, keeping warm in winter and cool in summer, and stopping smoking will improve population health and should reduce the need for health and social care services.

Altering social and environmental conditions can also improve health and enable people to participate fully in society through supporting independence; e.g. interventions to reduce loneliness, or adapting the environment to make homes and the outdoor built environment safer can reduce falls and unintended injuries and prevent excess winter or summer mortality.

Despite a substantial body of literature, there is continued uncertainty regarding the most effective interventions for promoting healthy ageing and preventing frailty and ill health in older people.

Research questions identified within this theme include:

- What interventions are effective to build resilience in older people to cope better with interaction between social and health-related difficulties in later life?
- Which interventions are effective in promoting independence among older people?
- Which interventions for older people are effective in maintaining or increasing physical activity to improve health, maintain mobility, and reduce obesity?
- What interventions are effective at promoting a healthier diet among older people?

- What interventions are effective at reducing unwanted social isolation and improving health and wellbeing in older people?
- Which interventions are effective at making physical and social environments age-friendly to improve health and wellbeing?
- What interventions are effective at reducing older people's exposure to excessive seasonal heat or cold?

Theme 5: Patient-centred decision making

Supporting patients with complex health needs to manage their health and care can improve clinical outcomes and when patients play a more collaborative role in managing their health and care, they are less likely to use emergency hospital services.[7] Patient-centred care represents better value for money as it ensures that services are built on the needs and preferences of the people who use them.

Patient-centred care has been defined as an approach that seeks to explore patients' desires, preferences, values and concerns with the aim of empowering them to make decisions that best fit their individual needs. Identified by the Institute of Medicine as one of the six fundamental elements of high-quality care, it is now considered an essential component of care delivery. Despite there being a broad agreement on the principle, precisely what patient-centred care should look like in practice has yet to be defined and has multiple and sometimes conflicting meanings for different care providers.[8]

Research questions identified within this theme include:

- How can we ensure that patients and/or carers are an "active partner" in the decision-making process? What are the barriers to implementation of this?
- We need to identify what issues are important to older patients with complex health needs to inform their choices and treatment priorities.
- Patients' need decision aids based on accurate information that can inform them of the 'likelihood' and amount of benefit of treatment, particularly where this is likely to be prolonged.

How to apply

Research proposals must be within the remit of one of the participating NIHR programmes (as listed in the table above) and applicants should carefully consider the remit described for each programme. However, this call provides opportunities to evaluate interventions that cross NIHR programme boundaries and applications that span the remit of one or more NIHR programme will be welcomed. The inclusion of patient views and experiences is considered important by each participating programme.

In recognition of the methodological complexities associated with research in this area applications which include the use of the following would be particularly welcome:

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[7] De Silva D. The Health Foundation, May 2011, p6. www.health.org.uk/publications/evidence-helping-people-help-themselves

[8] Kitson, A *et al*. 2013. Journal of Advanced Nursing, 69, 4-15.

- The evaluation of interventions or services using pre-existing data/routine data;
- The use of electronic databases and health record systems to develop and shape new ways of clinical working, specifically at the interface between primary and secondary care;
- Evaluations of interventions to help understand the interplay between co-existing physical and mental health multimorbidities, and the impact of ageing and social deprivation on mental health and physical ill health;
- The use of novel and efficient study designs, such as adaptive or basket trials;
- The use of informatics to facilitate entry into trials.

Applications should reference this highlight notice, and applications will be considered by participating programmes following the routine processes.

Participating programmes

Applications can be made at any time, as part of each programmes' researcher-led workstream. **Application forms will be available from the participating programmes' websites following the initial opening dates listed below.**

It is anticipated that this highlight notice will be repeated after the initial close dates. Please note that submission dates vary and completed forms must be submitted by the date specified on the relevant programmes' website.

For information on each programmes' researcher-led calls, please see: www.nihr.ac.uk/funding

Programmes	Website	Initial Opening Date
Efficacy and Mechanism Evaluation (EME) Programme	www.nihr.ac.uk/eme	5/7/17
Health Services and Delivery Research (HS&DR)	www.nihr.ac.uk/hsdr	September 2017
Health Technology Assessment (HTA) Programme	www.nihr.ac.uk/hta	10/8/17
Invention for Innovation (i4i) Programme	www.nihr.ac.uk/i4i	01/11/2017 (Call 15)
Programme Grants for Applied Research (PGfAR) Programme	www.nihr.ac.uk/pgfar	05/10/2017 (C25)
Public Health Research Programme (PHR) Programme	www.nihr.ac.uk/phr	1/8/17
Research for Patient Benefit (RfPB) Programme	www.nihr.ac.uk/rfpb	Early August 2017 (C34)
Fellowships Doctoral level (DRF) Fellowships Senior levels (PDF, CDF, SRF, TRF)	www.nihr.ac.uk/funding-and-support/funding-for-training-and-career-development	October 2017
Professorships		Late Sept 2017

Programmes	Website	Initial Opening Date
Clinical Scientist	www.nihr.ac.uk/funding-and-support/funding-for-training-and-career-development	30th March 2018

Royal College of General Practitioners: Impact from Research

The RCGP has developed a new mechanism to support researchers to translate findings from academic primary care into tangible support and benefits for GPs. Through collaborations the RCGP will support research projects to translate findings into accessible information and resources that will benefit GPs and patients. For additional information please contact Alison.Marsh@rcgp.org.uk