Minimising the impact of falling

SBRI Healthcare NHS England competition for development contracts

June 2015

Health Innovation Network South London

Summary

A new national Small Business Research Initiative (SBRI) Healthcare competition is being launched by NHS England in partnership with the Academic Health Science Networks (AHSN's) to find innovative new products and services. The projects will be selected primarily on their potential value to the health service and on the improved outcomes delivered for patients.

The competition is open to single companies or organisations from the private, public and third sectors, including charities. The competition will run in two phases:

- Phase 1 is intended to show the technical feasibility of the proposed concept. The development contracts placed will be for a maximum of 6 months and up to £100,000 (inc. VAT) per project
- Phase 2 contracts are intended to develop and evaluate prototypes or demonstration units from the more promising technologies in Phase 1. Only those projects that have completed Phase 1 successfully will be eligible for Phase 2.

Developments will be 100% funded and suppliers for each project will be selected by an open competition process and retain the intellectual property rights (IPR) generated from the project, with certain rights of use retained by the NHS.

The competition opens on 15th June 2015. The deadline for applications is 1200hrs on 11th August 2015.

Background

Multi-morbidity – defined as suffering two or more chronic conditions – affects patients of all ages but prevalence increases markedly with age, being present in most people aged 65 years and older[1].

The type of chronic conditions included in studies of multi-morbidity varies, making it difficult to find consistent reports of prevalence in the UK, but it is widely recognised that the number of patients with multi-morbidity is increasing – particularly as the population ages - and that those patients are likely to have complex needs for healthcare[2]. Some of the most prevalent chronic diseases in the over 65's include:

- Cardiovascular disease - including angina, heart attack, stroke, heart murmur and arrhythmia
- Musculoskeletal - including osteoarthritis, rheumatism and osteoporosis
- Respiratory diseases - including chronic lung disease, asthma
- Diabetes
- Cancer

Multi-morbidity has a particularly significant impact on the workload for both primary and secondary care, with estimates of between 32-78% of all consultations in general practice taken up by those patients[2] depending on the classification of chronic diseases included in the definition of multi-morbidity.

In addition to the burden on primary care, multi-morbidity has wider implications in terms of association with high mortality, reduced functional status for the patient and increased use of both in-patient and

[1] Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study - Barnett *et al*, **Lancet** 2012: 380: 37-43

[2] Epidemiology and impact of multi-morbidity in primary care: a retrospective cohort study – Salisbury *et al*, **British Journal of General Practice** 2011. DOI: 10.3399/bjgp11X548929

ambulatory health care[1]. Almost 30% of inpatient days in the UK are used by people with three or more chronic conditions[3].

The problems commonly identified and experienced by patients with multi-morbidity are numerous, diverse and commonly associated with the single-disease framework, by which modern day healthcare is delivered[4,5]. This leads to fragmentation of care, confusion and a burden of self-responsibility on an – often increasingly frail – multi-morbid elderly patient.

Frailty is an expression of a clinical condition that implies concern about an elderly person's vulnerability and outlook; it is associated with both physical and functional decline and has been shown often to overlap with multi-morbidity[6].

Deterioration to a state of worse frailty is more common than improvement and is strongly associated with adverse outcomes and increased rates of admission to long term care[6].

There are several definitions of and means to measure frailty, making prevalence unclear, however, it is estimated that between a quarter and half of people older than 85 years are frail and therefore at increased risk of 'geriatric syndromes' which are manifested as a variety of health problems[6,7].

This competition theme of 'Multi-morbidities in the frail elderly' focuses on 3 such problems:

- Falls
- Incontinence
- Decline in functional ability

Challenges

The complexity and spectrum of addressing challenges in caring for older people with multiple morbidities requires a multi-faceted approach to developing solutions. In order to maximise positive impact on quality of life for older people suffering from multiple morbidities, and minimise cost impact to the overall health and care system, this brief focuses of minimising the impact of falls and the fear of falling in older people.

Clinicians working in sectors across care for older people have put forward a range of unmet needs that could improve the care they are able to offer to patients, in terms of outcomes, experience and efficiency. These have been expressed as 'What if' scenarios, with those that have the greatest impact prioritised to identify opportunities for new products, which may be supported through SBRI funding.

The top level of the challenge area articulates a broad vision, with the scenarios below acting as suggestions for solution approaches; the list is not exhaustive and should only be used as a guideline for the sort of solutions that may be of interest.

Reduce avoidable harm from falls

Falls are estimated to cost the NHS £2.3billion each year. With 1 in 3 people over 65 falling each year, rising to 1 in 2 for adults over 80, injuries caused by falls are common in older people and can cause serious

[3] Chronic diseases: what happens when they come in multiples? – **British Journal of General Practice**, April 2007
[4] Managing patients with multimorbidity in primary care – Wallace et al, **BMJ** 2015; 350:h176 doi:10.1136/bmj.h176
[5] Multimorbidity: Time for action rather than words - Salisbury, C, **British Journal of General Practice**, February 2013 DOI: 10.3399/bjgp13X661020
[6] Frailty in Elderly People – Clegg et al, **The Lancet**, 2013, 381, 752-762
[7] A randomized trial of a multicomponent home intervention to reduce functional difficulties in older adults – Gitlin et al, **JAGS**, 54: 809-816, 2006

medical complications[8]. Recurrent falls are associated with increased mortality, increased hospitalisation and higher rates of long-term care[9].

Whilst the causes of falls are complex (over 400 risk factors leading to falling have been identified)[10], older people are particularly vulnerable due to delirium, cardiovascular issues, visual impairment, poly-pharmacy and problems with strength, balance and mobility[11].

The human cost of falling includes distress, injury and mortality. The associated loss of mobility and subsequent fear of falling has both physical and psychological consequences, including loss of confidence, loss of independence, isolation, anxiety and depression. Falls, and their impact on the older person, may also affect family members and carers of people who fall. Therefore, falls have a wide reaching impact on quality of life, health and healthcare and social care costs[12].

Physical consequences of falls include bone fractures, head injuries, soft tissue injuries or tears to the skin (lacerations) and often require hospital treatment. Population studies show that hip fractures are the most serious fall-related injury in older people, they require hospitalisation and many community-dwelling individuals do not fully recover their ability to walk or carry out daily activities of living, which impacts greatly on their ability to live independently and their quality of life. Around 15% of people suffering hip fractures die in hospital and a third do not survive beyond one year afterwards[13].

Fall prevention services provide assessment, strength & balance training, occupational therapist support, vision assessments and medicines review. People are referred to these services both to prevent falls and as treatment after a fall. They have shown to be both effective and cost efficient. Nevertheless, people are still falling and suffering harm.

[8] Population-based programmes for the prevention of fall-related injuries in older people - McClure et al, **Cochrane** 2008

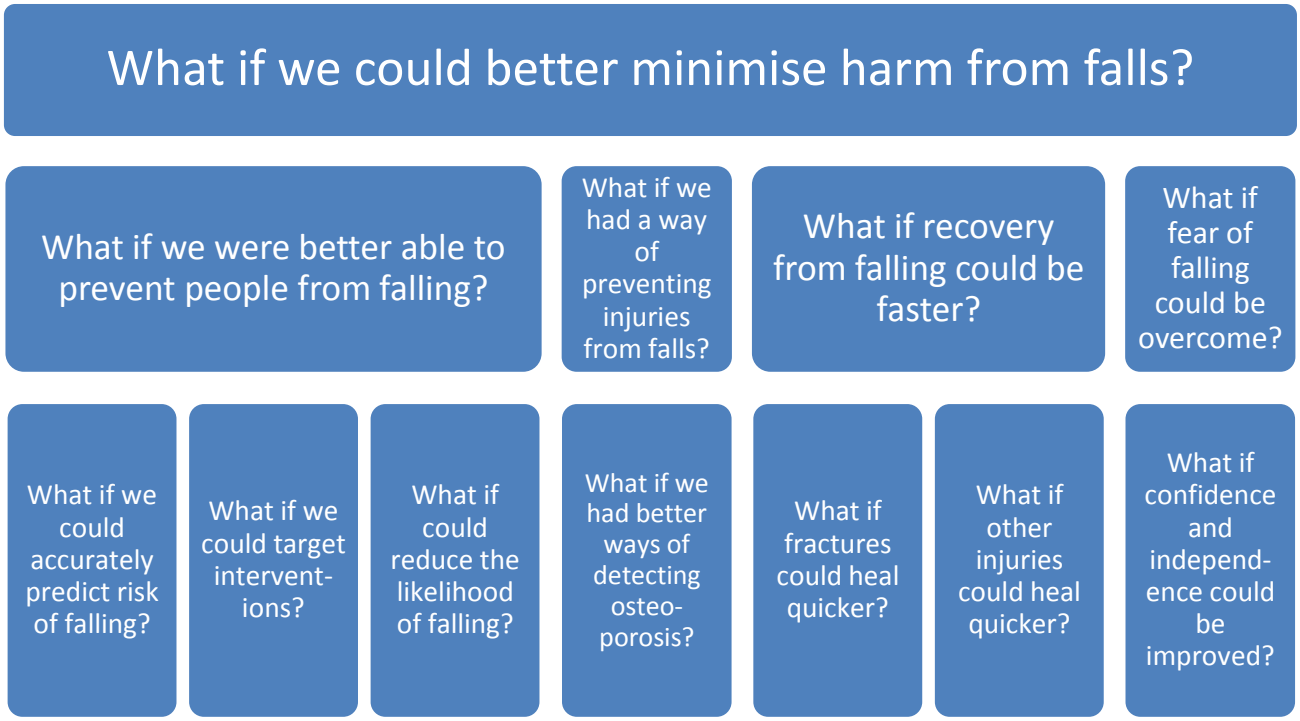
[9] Falls: Assessment and prevention of falls in older people – **NICE Guidance, Guidelines CG161**, June 2013

[10] Physiotherapy works: Falls and frailty, **Chartered Society of Physiotherapy**, September 2014

[11] Safe, compassionate care for frail older people using an integrated care pathway: practical guidance for commissioners, providers and nursing, medical and allied health professional leaders, **NHS England Guidance**, February 2014

[12] Falls: Assessment and prevention of falls in older people – **NICE Guidance**, Guidelines CG161, June 2013

[13] Population-based programmes for the prevention of fall-related injuries in older people - **Cochrane** 2008



Application process

This competition is part of the Small Business Research Initiative (SBRI) programme which aims to bring novel solutions to Government departments' issues by engaging with innovative companies that would not be reached in other ways:

- It enables Government departments and public sector agencies to procure new technologies faster and with managed risk;
- It provides vital funding for a critical stage of technology development through demonstration and trial – especially for early-stage companies.

The SBRI scheme is particularly suited to small and medium-sized businesses, as the contracts are of relatively small value and operate on short timescales for Government departments.

It is an opportunity for new companies to engage a public sector customer pre-procurement. The intellectual property rights are retained by the company, with certain rights of use retained by the NHS and Department of Health.

The competition is designed to show the technical feasibility of the proposed concept, and the development contracts placed will be for a maximum of 6 months and up to £100,000 (incl. VAT) per project.

The application process is managed on behalf of NHS England by the Eastern Academic Health Science Network through its delivery agent Health Enterprise East. All applications should be made using the application forms which can be accessed through the website www.sbrihealthcare.co.uk.

Briefing events for businesses interested in finding out more about the competition will be held on the 18th June and 25th June 2015 in Birmingham and London respectively. Please check the website for confirmation of dates and venues, information on how to register and details of the categories that will be presented at each event.

Please complete your forms using the online application process and submit them by 1200hrs on the 11th August 2015.

Key dates

Competition launch	15 June 2015
Briefing events	18 & 25 June 2015
Deadline for applications	11 August 2015
Assessment	September / October 2015
Contracts awarded	November 2015
Feedback provided by	December 2015

More information

For more information on this competition, visit:

www.sbrihealthcare.co.uk

For any enquiries e-mail:

sbrienquiries@hee.co.uk

For more information about the SBRI programme, visit:

www.innovateuk.org/SBRI