

**2018 Innovating for Ageing Programme
Problem Shortlist**

Surprise Us

This category allows innovators to submit solutions to problems that we haven't identified in the other five categories. Examples of problems that were submitted that didn't quite fit into one of the other categories but still need a solution include:

Big Supermarkets – Heightened staff awareness of needs

What are the biggest challenges vulnerable older consumers face when trying to buy products and services?

Packaging and easy access, technology and online shopping, payment processing e.g. self-checkouts, assisted shop availability in retail, availability of portion size nutritional meals.

What do you think are the most important challenges you or your organisation faces when trying to support vulnerable consumers?

Consistency in knowledge from staff perspective - understanding needs e.g. dementia etc to ensure we are an inclusive retailer, physical challenges e.g. small print, hard to find products, physical exertion

What do you think is the biggest and most important challenge facing vulnerable older consumers and those who serve them?

As above

Visiting Professor in Digital Transformation of Care Services, University of Cumbria - Eye care for those with poor dexterity

What is the issue facing vulnerable consumers that you would like us to ask the solutions community to attempt to solve?

Providing self-care in applying eye ointments and drops for people with poor dexterity.

Why should the judges ask the solutions community to prioritise the issue you have proposed?

Increasing numbers of older people suffer from glaucoma, which requires regular and frequent treatments which are best applied at night when it is most difficult to access help from nurses or other carers in the home environment.

How many people might benefit from a solution to this issue?

At least 200,000 in the UK - but millions worldwide. The numbers are increasing as the populations age. Early and satisfactory solutions play a preventive role.

If you have any case studies to exemplify the problem, please provide details here

My father required nightly visits by family members to his home for over 3 years. This prevented him from having to be admitted to a care home.

Ian Sissons – Health Monitoring

What is the issue facing vulnerable consumers that you would like us to ask the solutions community to attempt to solve?

Between one in four and one in three over 65s suffer a fall each year. One in one hundred falls result in hip fractures and one in five result in serious injury. The main causes of falls are well known. They are chronic health conditions, impairments and illnesses. Environmental factors such as floor conditions also have an impact. The NHS provides support and advice to reduce the potential frequency of falls but this is mainly available after a first fall in order to reduce second or subsequent falls.

Each of the main factors can be monitored but there would be advantages in a joined-up approach to monitoring and providing information on all the risk factors together. The chronic health conditions such as heart disease, dementia, low blood pressure and diabetes are capable of remote monitoring through medical aids worn by the individual. Impairments such as poor vision and muscle weakness can also be monitored remotely. Illnesses such as labyrinthitis should also be capable of remote monitoring.

Environmental factors such as wet or polished floors can be monitored through cameras in the home and external environmental factors such as uneven paths monitored through external cameras.

Each factor can be monitored in isolation but can someone put it all together in a service that monitors all relevant factors and puts the information in the hands of the individual to take informed decisions to potentially reduce the risk of that first fall that can trigger health problems and lack of confidence in the individual.

Why should the judges ask the solutions community to prioritise the issue you have proposed?

The over 65 proportion of the UK population is currently around 18% so roughly 12m persons. The proportion is projected to increase to 23.9% of a population of 73.3m (ONS statistics) by 2036 so 17.5m persons.

With the current levels of propensity to fall the number of individuals suffering significant injury each year is substantial. Even reducing this propensity by a small amount through effective monitoring and provision of information and advice targeted at the main risks that the individual specifically runs would have benefits in a reduction in the number of falls, reduction in adverse health experiences, reduction in anxiety about the possibility of falling and financial benefit to the NHS from reduction in the number of emergency cases.

How many people might benefit from a solution to this issue?

Any estimates of the potential beneficiaries will be subject to considerable subjectivity. With an over 65s population of 11.8m the expected number of falls in a year would be around 3m. The proportion of the over 65 population who might engage in a monitoring programme would be heavily dependent on the cost and effort needed to comply with the requirements.



Assuming 1 in 4 individuals were willing to participate (3m individuals) then the expected number of falls without monitoring would be around 750,000. If the monitoring resulted in a 10% reduction in this figure then 75,000 people each year would benefit in some way which would include a proportion who would avoid hip fracture or other serious injury and those who have lower levels of anxiety over the possibility of falling.

If you have any case studies to exemplify the problem, please provide details here

I do not have any specific case studies although I have direct experience of the elderly who have suffered falls.

UCL Department of Behavioural Science and Health – Encouraging healthy lifestyles

What is the issue facing vulnerable consumers that you would like us to ask the solutions community to attempt to solve?

Mental Ageing: the role of lifestyle behaviours

Cognitive decline is the first outward sign of dementia, and has a major public health impact on individuals and governments around the world. As individuals age, cognitive abilities gradually start to deteriorate for independent or combined genetic and environmental causes. Given that very little can be done regarding our genetic inheritance, the innovating focus of the current research is on modifiable risk factors across the life course.

There is no clear consensus in defining healthy or successful cognitive ageing, but it can be described as the maintenance of most cognitive abilities as until older age and a minimum variation in the spectrum of normal cognitive decline with ageing. There is an immense explanatory gap in understanding the biological foundations of cognitive ageing across the whole spectrum or what determines a slowed information processing and multitasking.

I would like you to consider the role of modifiable risk factors associated with cognitive ageing and dementia.

There are many questions to be answered regarding the biological foundations of cognitive ageing across the spectrum, and the potential role of lifestyle behaviours in reverting the accelerated changes in the cognitive ageing process. Given the increase in the size of the population of older adults and the personal and social consequences of age-related cognitive decline, research related to the maintenance of cognitive functioning is of increasing relevance. From an environmental perspective, promoting healthy adult lifestyle behaviours may attenuate harmful effects of less modifiable risk factors. Therefore, identifying genetic and lifestyle factors which predict successful ageing represents an important direction for researchers in delineating the risk factors for cognitive decline and developing behavioural interventions designed to attenuate cognitive decline.

Public health interventions based on modifiable lifestyle behaviours represent high-level priorities and should be regarded as an important line of defence against cognitive decline and dementia.

Why should the judges ask the solutions community to prioritise the issue you have proposed?

Despite major progress in understanding the neurobiology of cognitive impairment and dementia, there are still no clear determinants and complete causal models available for explaining risks for this condition. The UK Department of Health National Dementia Strategy acknowledged that “what is good for the heart is also good for the brain”. This implies that limited consumption of alcohol, non-smoking, an active physical lifestyle, and a balanced, low-energy-dense/nutrient-rich diet should all contribute to a healthy brain. Cognitive decline itself is a predictor of dementia. Thus, the implied message is that by changing lifestyle behaviours dementia may be delayed or even prevented.

Given the increase in the size of the population of older adults and the personal and social consequences of age-related cognitive decline, research related to the maintenance of cognitive functioning is of increasing relevance. From an environmental perspective, promoting healthy adult lifestyle behaviours may attenuate harmful effects of less modifiable risk factors.

Therefore, identifying genetic and lifestyle factors which predict successful ageing represents an important direction for researchers in delineating the risk factors for cognitive decline and developing behavioural interventions designed to attenuate cognitive decline.

Given that lifestyle behaviours are modifiable risk factors indicates that encouraging a healthy lifestyle may prevent or ameliorate cognitive decline and underlying cerebrovascular and cardiovascular risk factors. Designing interventions that promote healthy lifestyles should represent key components of any response to the potentially overwhelming problem of dementia prevention.

How many people might benefit from a solution to this issue?

Thousands of individuals aged 50 and older living in the UK.

I believe that the increase in life expectancy currently witnessed in the UK and elsewhere, should represent a huge opportunity and not a burden for the society we live in. However, changes and prevention are needed in order that we prevent chronic disease and more and more people could enjoy optimal mental and physical health. Without these abilities they will not be socially connected and miss to have a purpose in later life.

I have previous experience with public engagement and together we can build on preventable measures such as increased physical activity for older adults across the UK. See some of these examples below:

<https://iris.ucl.ac.uk/iris/browse/profile?upi=DCADA81>

- Funder of media blogs and Twitter account promoting physical activity and healthy lifestyle across life “Use it, don’t lose it!”, “Cognitive Ageing”, “Say No to Dementia!”, “Health and lifestyle”:

<https://twitter.com/UseItDontLoseIt>

<http://www.scoop.it/t/use-it-don-t-lose-it>

<https://www.facebook.com/UseItDontLoseIt>

- October 2015 Border Crossings selection Stage 2: for the public engagement project “Age Well!” preselected for a short-film production in collaboration with UCL and City Lit.
- March 2013, the project “Use it; don’t lose it!” was part of the MRC Centenary Anniversary 100 years of life-changing discovery: “Advancing medicine, changing lives” public engagement events taking place at the Science Museum, UCL and Big Bang Young Scientist and Engineering Fair, London ExCeL Olympia, UK.
- September 2012, Wellcome Trust Grant for the Public Engagement Project named “Use it; don’t lose it!” promoting the role of physical activity in early midlife

<https://www.scoop.it/t/use-it-don-t-lose-it>

If you have any case studies to exemplify the problem, please provide details here

Cadar, D., Davies, H., Lassale, C., Llewellyn, D., Batty, D., Steptoe, A. Individual and area-based socioeconomic differentials in dementia incidence in England: Evidence from a 12-year follow-up of participants in the English Longitudinal Study of Ageing, JAMA Psychiatry, 2018

Cadar, D. A Life Course Approach to Dementia Prevention. Journal of Aging and Geriatric Medicine, 2017

Rogers, N.T., Steptoe, A., Cadar, D. Frailty is an independent predictor of incident dementia: Evidence from the English Longitudinal Study of Ageing, Scientific Reports, 2017.

Hollamby, A., Davelaar, E.J., Cadar, D. Increased Physical Fitness Is Associated with Higher Executive Functioning in People with Dementia. Frontiers in Public Health, 2017.

Cadar D., Pikhart H., Mishra G., Stephen A., Kuh D., Richards M. The role of lifestyle behaviours on 20-year cognitive decline, Journal of Aging Research, 2012. (Epub)

Cadar D. Geriatric Psychiatry Basics, Journal of Mental Health, 2009, 18(4):358-359.

Some of my recent articles gained substantial media attention (see links presented below):

1. Rogers, N.T., Steptoe, A., Cadar, D. Frailty is an independent predictor of incident dementia: Evidence from the English Longitudinal Study of Ageing, Scientific Reports, 2017.

<http://www.ucl.ac.uk/news>

<https://www.alzheimers.org.uk/news>

<https://www.express.co.uk/life-style/health>

<https://www.myscience.org/wire>

2. Hollamby, A., Davelaar, E.J., Cadar, D. Increased Physical Fitness is Associated with Higher Executive Functioning in People with Dementia. Frontiers in Public Health, 2017.

<https://www.ucl.ac.uk/news>

<http://www.ucl.ac.uk/news/headlines/1217/211217-gym-dementia>

<https://www.siasat.com/news/healthy-lifestyle>

<http://www.afr.com/lifestyle/health>

<http://www.hindustantimes.com/fitness>

3. Cadar, D., Robitaille A., Clouston S., Hofer S.M., Piccinin A.M., Muniz-Terrera G. An international evaluation of cognitive reserve and memory changes in early old age in ten European countries. Neuroepidemiology, 2017.

BBC Wales Radio interview

<http://www.ucl.ac.uk/news/news-articles>

JUST.

RETHINK RETIREMENT



INNOVATING
FOR AGEING



<http://time.com/4682031/how-to-prevent-dementia/?xid=homepage>

<http://www.health.com/syndication/how-to-prevent-dementia>

<https://m.medicalxpress.com/news/2017-02-cognitive-decline.html>

<https://www.myscience.org/wire/education>