



Department
of Health &
Social Care

Research and development work relating to assistive technology

2017–18

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Presented to Parliament pursuant to Section 22 of
the Chronically Sick and Disabled Persons Act 1970



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Introduction

About this report

Section 22 of the Chronically Sick and Disabled Persons Act 1970 requires a report to be placed before Parliament each year on progress made in government-funded research relating to equipment that might increase the range of activities and independence or well-being of disabled people, known as assistive technology.

Working with stakeholders, in 2001 the Foundation for Assistive Technology developed the following definition for assistive technology:

Assistive technology is any product or service designed to enable independence for disabled and older people.

This broad definition means that a wide range of products and services are eligible for inclusion in this report. As technology advances, the breadth of work covered is constantly expanding. The research covers not only specific products, but also systems, combinations of technologies, and interfaces to mainstream technology such as the internet. In addition to addressing issues associated with physical health, developments in various types of assistive technology can help people with mental health difficulties live more independent lives; these can often involve online and behavioural approaches rather than devices. Developments with a focus on mental health are also eligible for inclusion in this report.

For the purpose of this report, products and systems are further classified as assistive technology if their adoption and use is under some measure of control by the disabled or older end-user and there is a level of meaningful interaction by the end-user with the product or system. This therefore excludes telemedicine services such as videoconferencing between a general practitioner and a hospital consultant, using equipment in the hospital and GP surgery, as these technologies are primarily used by, and operated under the control of, healthcare professionals. Neither does the report feature research on implanted technologies over which the user has no control or interaction, such as hip replacements.

This report aims to reflect research relating to a wide range of impairments and conditions, and to cover research on service provision and patterns of use as well as development and evaluation of technologies. It highlights developments in priority setting and funding for assistive technology research and innovation, some particular areas of research activity and any developments in supporting the uptake and spread of assistive technology. The Annex provides a listing of government-funded assistive technology research and development projects current in 2017–18.

This report provides information about the wide range of government-funded projects supporting the development, introduction and evaluation of assistive technology. It provides a broad overview of the current evidence base. To understand what some of this research means, the NIHR Dissemination Centre will shortly produce a review highlighting recent evidence on assistive technology to support older people's independent living. It will showcase research projects on remote monitoring of frail older people and on adaptations to the home. The review will also explore the ways in which technology is used and delivered in everyday life. It should be of interest to older people and their families, as well as to occupational therapists, adult community health and social care staff and commissioners of services.

Glossary of organisation acronyms

AHRC	Arts and Humanities Research Council
AHSN	Academic Health Science Network
ANR	Agence nationale de la recherche
BBSRC	Biotechnology and Biological Sciences Research Council
DfT	Department for Transport
EPSRC	Engineering and Physical Sciences Research Council
ESRC	Economic and Social Research Council
HCRW	Health and Care Research Wales
HEE	Health Education England
HTA	Health Technology Assessment
JLA	James Lind Alliance
MRC	Medical Research Council
NIHR	National Institute for Health Research
NIHR CRN	National Institute for Health Research Clinical Research Network
NSFC	National Natural Science Foundation of China
SBRI	Small Business Research Initiative
SMNDRAG	Sheffield MND Research Advisory Group
STFC	Science and Technology Facilities Council
UKRI	UK Research and Innovation
WM CRN	West Midlands Clinical Research Network

Developments in priority setting and funding

This section highlights developments in priority setting and funding for assistive technology research and innovation. It provides a few examples of government funding related to assistive technology and any current or planned funding rounds/calls, developments of research networks that will shape the direction of new assistive technology research and any other planned work as a result of funding.

JLA Priority Setting Partnerships

The James Lind Alliance (JLA) is a non-profit-making initiative established in 2004. It brings patients, carers and clinicians together in Priority Setting Partnerships (PSPs) to identify and prioritise the top 10 uncertainties, or unanswered questions, about the effects of treatments and other interventions such as assistive technologies. The aim of this is to ensure that health research funders are aware of the issues that matter most to patients and clinicians. The National Institute for Health Research (NIHR) funds the infrastructure of the JLA.

More than 60 PSPs have now been completed. The top 10 research priorities have been agreed for a range of health conditions and settings, including cystic fibrosis, multiple conditions in later life, and type 2 diabetes. The scoliosis PSP set out to identify the unanswered questions about the diagnosis and management of scoliosis in people of all ages from patient and clinical perspectives, and then to prioritise those that patients and clinicians agree are the most important. For the purposes of this exercise, scoliosis included all spinal imbalances; diagnosis included screening and risk of progression; and management included treatment, care and psychological effects. The partnership was funded and supported by the [Scoliosis Association \(UK\)](#), [British Scoliosis Research Foundation](#), [NIHR Oxford Biomedical Research Centre](#) and [NIHR Oxford Musculoskeletal Biomedical Research Unit](#). The PSP agreed a final list of priorities in 2017 for scoliosis research, which included:

Priority 7: [Which type of brace \(e.g. rigid or dynamic\) is most effective in the treatment of \(a\) early-onset scoliosis and \(b\) adolescent idiopathic scoliosis?](#)

Priority 8: [What forms of postural care are most effective \(standing frames, seats, sleep suits or wheelchairs\) for managing early-onset, neuromuscular and syndromic scoliosis?](#)

Priority 14: [What are the long-term effects of bracing for children and adolescents with scoliosis \(physically and emotionally\)?](#)

In 2014, the childhood disability PSP identified priorities for research into neurodisability in children. In response, the NIHR commissioned a number of studies. For example, in January 2018 the NIHR Health Technology Assessment programme published a qualitative scoping study on therapy interventions for children with neurodisabilities. In April 2018, a study was funded to estimate the costs and benefits of providing very young disabled children (under 5 years old) with powered mobility aids (e.g. mini-wheelchairs, ride-on cars).

There are many other PSPs under way as of June 2017; they include digital technology for mental health, learning difficulties in children and young people (Scotland), adult social work, safe care for adults with complex health needs, rare musculoskeletal diseases in adulthood and mental health in children and young people. All of these might identify some research gaps relating to assistive technology.

EPSRC Health Technologies – HTHive17

In November 2017, the Engineering and Physical Sciences Research Council (EPSRC) held their inaugural Healthcare Technologies Hive Event, HTHive17, in Glasgow. This two-day invitation event brought together, for the first time, the leading UK researchers funded by EPSRC's Healthcare Technologies theme, who span the engineering and physical science disciplines. Day two of the event was dedicated to charity interactions, with 11 charities presenting their key challenges using a sandpit approach to the HTHive research community with the aims of:

- connecting with a cohort of influential and well-informed researchers, funders and users of healthcare technology research
- brainstorming novel solutions to specific charity challenges
- building networks to further explore solutions following the event.

Charities presenting on assistive technology challenges included Orthopaedic Research UK, who presented a challenge on lower limb exoskeletons; Devices for Dignity, who presented a challenge on incontinence technology for women; and MQ, who presented a challenge on mental health technology. After groups pitched their novel approaches, small-scale seed funding was available for some projects to continue their discussions through future collaborative meetings. Successful groups receiving this seed funding included the Devices for Dignity challenge.

UK Research and Innovation (UKRI) Industrial Strategy Challenge Fund (ISCF) Healthy Ageing

The increasing number of people in the UK aged over 75 years and the ageing population presents a challenge to health services. It also presents an opportunity for those who are able to create technologies and services to allow people to stay active and independent as they age. Through the healthy ageing challenge, government will bring together UK businesses and researchers to help people to live in their homes for longer, tackle loneliness and increase independence and well-being. Up to £98M will be invested in research and innovation that supports people as they age and also their carers. Funding opportunities for UK-based researchers and businesses include:

- a programme of research into behavioural science and design for an ageing population
- collaborative research and development projects for early-stage innovations that focus on digital healthcare and older adults
- demonstrator projects to trial how innovations can work in real life, and develop and scale up new products and services.

ESRC/NIHR Dementia Research Initiative 2018

In May 2018, the Economic and Social Research Council (ESRC) and NIHR invited full proposals for undertaking social science research to support innovation in dementia prevention, interventions and care delivery. This builds on the success of the 2012 ESRC/NIHR call, which funded five large grants relevant to assistive technology research.

Proposals for the 2018 call were invited in the following areas:

- prevention based on an understanding of socioeconomic and environmental risk or protective factors and how best to effect changes in behaviour to lessen the risk of developing dementia, delay onset and slow progression

- the development of interventions supported by underpinning social science research to inform cost-effective care models tailored for the population in need so that people affected by dementia have the best possible quality of life
- care delivery looking across care settings, caregivers and care providers to deliver the right set of care arrangements in the most appropriate place at the right time.

Although assistive technology is not the specific focus of this initiative, the 2018 call may fund more awards of relevance. Total funding of £17.5M is available for the call, and funding decisions are due in November 2018.

Current NIHR calls

The NIHR has a number of current themed calls that may attract applications that evaluate assistive technology. For instance, the NIHR Health Technology Assessment programme has an open themed call and is awaiting proposals for behavioural interventions to treat anxiety in adults with autism and moderate to severe learning disabilities (the deadline for applications was August 2018). There is also an open call for empirical research studies to evaluate the use of digital technologies to improve health outcomes, self-management of health or delivery of health and social care. The purpose of this call is to evaluate existing digital technologies and their potential to bring benefit to health and social care; the development of digital interventions is outside the remit of this call (the deadline for applications is November 2018).

NIHR Child Prosthetics Research Collaboration (the Starworks project)

Starworks is a young people's prosthetics research collaboration focused on bringing children and their families together with key opinion leaders from the NHS, industry, clinical academia and leading national research centres with capabilities in child prosthetics. Its primary achievements during 2017–18 include identifying system-wide needs in child prosthetics. This has been realised through understanding the perspectives of all stakeholders who were seen as equal partners with a significant role to play in developing innovations for children with limb loss. An approach was developed that treats all stakeholders as equal and places children at the centre of innovation through the use of sandpit events and networks. These developments have led to the funding of 10 projects, which involve all stakeholders and seek to address unmet needs that will ultimately improve child prostheses, some of which were identified through this development work.

Research current in 2017–18

This report includes a wide breadth of research activity supported by a variety of funders and host institutions. Here are just some of the studies that seek to explore particular challenges and potential solutions affecting the independence and mobility of elderly and disabled people.

Dementia and mobility

Section 22 of the Chronically Sick and Disabled Persons Act (1970) makes specific reference to the need for research to explore ways in which the mobility of disabled people and elderly people can be improved. This is evident in a number of government-funded projects focused on addressing the needs of people living with dementia. For example, the Department for Transport (DfT) has funded the development of ‘[Damibu](#)’, a dementia-friendly transport app to aid people living with dementia, acting as a companion to be used when travelling to any destination. The DfT has also funded ‘[Zipabout](#)’, an online platform that uses real-time transport information provided by transport operators and local authorities to aid people living with dementia and others who may find using public transport particularly challenging.

Researchers at the University of Bournemouth are exploring ways in which architectural design can aid people living with dementia to [navigate residences](#). The project, funded by the ESRC, will identify the architectural features that make buildings relatively challenging or simpler for people living with dementia to navigate. In addition, researchers at Ulster University have been funded by the Public Health Agency and The Atlantic Philanthropies to explore specific ways in which technological adaptations within a supported housing environment can enhance the lived experience of both people living with dementia and their carers.

In addition, the ESRC and NIHR have funded a large study led by researchers at the University of Manchester, who will explore the features outside the home that can create a dementia-friendly neighbourhood. The ‘[Neighbourhoods and Dementia](#)’ study aims to produce findings that will aid and enable a higher degree of self-care and independence for people living with dementia and their carers within their local neighbourhood.

Virtual reality

Virtual reality (VR) is being used to aid both physical and mental impairments through immersive experiences. The Arts and Humanities Research Council (AHRC) has funded a team of researchers at the University of York to explore the use of VR technology to enable individuals to take part in [immersive singing](#) experiences in mountain-summit settings. The use of VR enables individuals with physical and mental impairments to experience the well-being benefits of communal singing, combined with an immersive outdoors experience that they would otherwise be unable to access.

Similarly, a team of researchers at Oxford Health NHS Foundation Trust, funded by the NIHR, have used VR in the [treatment of patients with psychosis](#). Patients wear a specially designed headset to interact with computer-generated characters. This innovative computer-simulated environment enables patients to experience and practise a variety of social interactions in a safe space, leading to reductions in anxiety and paranoia in their everyday interactions with others.

Another team of NIHR-funded researchers are building on a feasibility study to test whether VR gaming can be used to help patients [train in the use of a myoelectric prosthetic arm](#). Patients in the initial feasibility study, run by researchers at Sheffield Teaching Hospital, reported that they found VR an effective training tool for using their prosthetic limbs.

Prosthetic design and sensory feedback

Researchers at Newcastle University are being funded by the EPSRC to explore whether or not [novel training and practice methods](#) can build on an individual's sensory feedback when using the latest models of prosthetic hands. The study will examine the extent to which the activity of muscles can deviate from natural patterns employed in controlling movement of the biological arm and hand, and whether or not prosthesis users can learn to synthesise these functional maps between muscles and prosthetic digits. If successful, the training methods employed will allow prosthetic-limb users greater independence.

The discomfort experienced by prosthetic-limb users is particularly challenging for those living in lower- and middle-income countries owing to the lack of available public infrastructure and support services. Researchers at Salford University, funded by the EPSRC, are collaborating with teams in Uganda and Jordan to research ways in which body-powered prosthetics can be designed to meet the specific challenges faced by users in lower- and middle-income countries, in addition to exploring the most cost-effective models of production that will increase the availability and utility of body-powered prosthetics.

Several other studies have been funded in the area of prosthetic design and sensory feedback, examining subtopics such as improved fitting of prosthetic limbs, cost-effective design and user training practices. Organisations that have funded work in this area include the Medical Research Council (MRC), NIHR and EPSRC.

Assistive technology in the home

Care in the home is an area of growing importance for both people with disabilities and elderly people, as well as for the sustainable planning of the NHS. The ESRC has funded researchers at the University of Sheffield to explore ways in which the care needs of those with chronic health conditions and/or disabilities can be met in an [enhanced home environment](#). The team of researchers will investigate how technological home improvements can support emerging and sustainable models of care that benefit both patients and home-carers.

Robotics and 'smart' technological improvements have the potential to assist the population at large, but they can also have particular benefits in aiding specific patient groups to complete 'everyday' tasks. Researchers at the University of Hertfordshire have received funding from the EPSRC to build on previous work (Robot House) to extend the functionalities and robotic hardware of an existing home/test environment. Researchers plan to explore the potential benefits that [robotic home improvements](#) could have for various patient groups.

Continual care in the home is not always possible for every individual. Reasons can include financial pressures, service availability and personal constraints of immediate carers and relations. NHS England has funded researchers at Ally Smart Care through the Small Business Research Initiative (SBRI) to explore the feasibility of an [early warning system](#) that identifies unusual changes in an individual's movements in the home. The products developed by the research team aim to be able to detect sharp declines in health such as worsening dementia or the early onset of flu.

Supporting uptake and spread of assistive technology

SBRI Healthcare

The Small Business Research Initiative for Healthcare (SBRI Healthcare) is an NHS England initiative delivered by the Academic Health Science Network (AHSN).

Just Checking is an activity monitoring system that was originally developed to assess and monitor the activities of daily living of frail older people living in their own homes. As part of the Right Care Competition, Just Checking Ltd received funding to conduct a phase 3 project to assess whether the system could be deployed to manage the care of adults with learning disabilities in supported living or residential care. Just Checking is a simple-to-install activity monitoring system that is used to understand the natural living patterns of a person requiring care.

The deployment of the system has involved some bespoke modifications, particularly in respect of monitoring multiple service users in residential care settings. The core proposition supported by the Just Checking technology has been to reduce 'over-care' – identifying where service users are able to manage on their own, for instance understanding whether there is a real need for an overnight carer on site. In the last 12 months, 350 new Just Checking systems have been sold, around 200 of which were for use with adults with learning disabilities.

NIHR MindTech MedTech Co-operative

NIHR MindTech MedTech Co-operative is a national centre focusing on the development, adoption and evaluation of new technologies for mental healthcare and dementia. It was established in 2013 (initially as a Healthcare Technology Co-operative) and is funded by the NIHR. MindTech brings together healthcare professionals, researchers, industry and the public.

In 2015, MindTech conducted a proof-of-concept study (Tic-Doc) to develop and feasibility test a prototype digital platform to aid the self-management of Tourette syndrome (TS). This study involved a number of young people with TS and their families and also involved Tourette's Action (the leading support and research charity) and the host trust, Nottinghamshire Healthcare NHS Foundation Trust. Tic-Doc found that there is a significant need for remote interventions that young people and their families can access from home and that digital technology has the potential to deliver evidence-based treatments for TS. The results of this study informed a successful application to the NIHR Health Technology Assessment programme for a randomised controlled trial of a digital behavioural intervention for TS ([ORBIT](#)), which started in late 2017 and is still in progress. ORBIT also involves the Karolinska Institute in Sweden, University College London, Great Ormond Street Hospital and Tourette's Action. Tic-Doc and the ORBIT trial have the potential to transform the treatment of TS in the NHS and provide many hundreds of children with access to evidence-based treatment.

NIHR Health Technology Cooperative Devices for Dignity

The NIHR funds the Health Technology Cooperative (HTC) Devices for Dignity (D4D) to act as a catalyst within the NHS for the development of new medical devices, healthcare technologies and technology-dependent interventions.

The Head Up project arose from a call from patients with motor neurone disease (MND) for better neck support. Led by NIHR Sheffield Biomedical Research Unit and using co-design methods, patients and carers from [Sheffield MND Research Advisory Group](#) (SMNDRAG), designers from Sheffield Hallam University's [Lab4Living](#), engineers from [INSIGNEO](#) and clinicians developed a Class 1 CE-marked device. This was evaluated in a multicentre trial involving over 150 patients. Patient feedback was hugely positive, including pain reduction and improved support. Patients also reported that the Head Up collar improved their self-confidence and increased their social engagement as they felt more confident about going out. The second phase of the clinical trial demonstrated the device's roll-out potential from MND to other neck weakness conditions. UK patents have been granted, with patents pending for the USA and Europe, and a commercial agreement has been signed with TalarMade, a UK company with global reach.

The collar was launched clinically in December 2017 at an international conference in the USA. The collar is now commercially available in the UK on the [TalarMade website](#). There is a potential UK market of around 130,000 collars per year, and clinicians from many other countries have already added their details to a pre-order database.

NIHR Trauma Management MedTech Health Technology Co-operative

The NIHR Trauma Management MedTech Co-operative builds expertise and capacity in the NHS to support the development of new medical technologies to improve the management of the trauma care pathway from the point of injury through to stabilisation and recovery.

Adapttech Limited developed a class I medical device, Marathon™, a laser scanning system for 3D modelling the inner surface of a lower limb prosthesis socket. This medical device captures the inner surface of the stump-prosthesis fitting, and identifies the pressure and friction zones in which alterations should be made for a complete fitting. This CE-marked device now has the potential to markedly reduce patient management time, increase patient satisfaction and save costs, if proven to be an effective tool for improved patient management.

The HTC has initiated support from the European Regional Development Fund Medical Devices Testing and Evaluation Centre (MD-TEC) to deliver a summative usability study to confirm the safety of the device. The HTC has also facilitated links with the West Midlands Rehabilitation Centre and OpCare to complete a commercially funded post-market clinical follow-up study in 100 lower limb amputee patients. This is being supported by the West Midlands Clinical Research Network (WM CRN). The HTC will support by linking in with the West Midlands AHSN and Medlink to identify how this device can be adopted.

Annex. Listing of assistive technology research and development projects 2017–18

Note: When compiling the data for the 2017–18 report, each funding organisation was provided with a definition of assistive technology and a set of inclusion and exclusion criteria building on work previously undertaken by the Foundation for Assistive Technology (see Appendix). Each funding organisation that contributed to the report was responsible for identifying and submitting projects to be included. The report was co-ordinated and produced by the NIHR.

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Hearing aids for music: exploring the music listening behaviour of people with hearing impairments</p> <p>University of Leeds</p> <p>https://gtr.ukri.org/projects?ref=AH%2FM00368X%2F1</p>	<p>This project represents the first large-scale systematic investigation of how music listening experiences are affected by deafness and the use of hearing aids.</p>	<p>AHRC</p> <p>Feb 15 – Jan 18</p> <p>£197,836</p>
<p>Ludic Artefacts: Using Gesture and Haptics (LAUGH) to support subjective wellbeing of people with dementia</p> <p>Cardiff Metropolitan University</p> <p>https://gtr.ukri.org/projects?ref=AH%2FM005607%2F1</p>	<p>This study investigated ways of supporting the well-being of people living with late-stage dementia through the development of new kinds of playful artefacts.</p>	<p>AHRC</p> <p>Apr 15 – Apr 18</p> <p>£424,183</p>
<p>Performing Empowerment: Disability, Dance, and Inclusive Development in Post-Conflict Sri Lanka</p> <p>University of York</p> <p>https://gtr.ukri.org/projects?ref=AH%2FP008178%2F1</p>	<p>This project examined an innovative way of empowering persons with conflict-related disabilities in Sri Lanka through an unusual combination of dance and law.</p>	<p>AHRC</p> <p>Nov 16 – Apr 18</p> <p>£80,152</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>Sensory Objects Enterprise Co-Development and Start Up project</p> <p>University of Reading</p> <p>http://gtr.rcuk.ac.uk/projects?ref=AH%2F007430%2F1</p>	<p>The initial aim of this project is to co-develop employment for people with learning disabilities as part of a training and sensory dialogue service that can help museums and heritage sites to realise more accessible and meaningful experiences for their visitors with learning disabilities.</p>	<p>AHRC</p> <p>Jun 17 – May 18</p> <p>£80,611</p>
<p>Resilience and Inclusion: Dancers as Agents of Change</p> <p>Coventry University</p> <p>http://gtr.rcuk.ac.uk/projects?ref=AH%2F003702%2F1</p>	<p>Building on previous work, this project sought to produce easily accessible resources to change perceptions about disability and show how the law of copyright can be applied to support the sustainability and impact of dance made and performed by disabled dance artists. This will also stimulate the development of new business models for dance.</p>	<p>AHRC</p> <p>Oct 16 – Oct 17</p> <p>£70,147</p>
<p>Disability and Community: Dis/engagement, dis/enfranchisement, dis/parity and dissent – aka The D4D project</p> <p>Bath Spa/University of Exeter</p> <p>http://gtr.rcuk.ac.uk/projects?ref=AH%2F004108%2F1</p> <p>http://gtr.rcuk.ac.uk/projects?ref=AH%2F004108%2F2</p>	<p>This project is exploring the ways that disabled people are connected to and disconnected from surrounding communities and how they might resituate themselves in and reshape the communities around them. The project aims to improve service provision and quality of life for people with disabilities but also to support service providers, policy-makers, and manufacturers and providers of technology.</p>	<p>AHRC</p> <p>Mar 16 – Mar 20</p> <p>£1,296,406</p>
<p>Dementia, Arts & Wellbeing Network (DAWN)</p> <p>University of Nottingham</p> <p>http://gtr.rcuk.ac.uk/projects?ref=AH%2F00650X%2F1</p>	<p>This project brings together artists, academic researchers and people living with mild to moderate dementia to explore the use of visual and performing arts to promote well-being in dementia.</p>	<p>AHRC</p> <p>Apr 16 – Oct 17</p> <p>£24,215</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Co-Designing a Creative Economy Healthcare Hub</p> <p>University of the West of England</p> <p>http://gtr.rcuk.ac.uk/projects?ref=AH%2FP013163%2F1</p>	<p>Building on the four AHRC Creative Economy Hubs, this project sought to explore the wider applicability and adaptability of the creative Hubs model to the healthcare sector. This pilot project focused on the challenges around dementia care and ageing populations, but in recognition that this is a test-bed for the broader health and well-being sector. The long-term goal of the project was to design a framework for a near-term creative economy Healthcare Hub, laying down recommendations for, and routes towards, its implementation.</p>	<p>AHRC</p> <p>Feb 17 – Jan 18</p> <p>£161,238</p>
<p>Tangible Memories: Parlours of Wonder</p> <p>University of Bristol</p> <p>http://gtr.rcuk.ac.uk/projects?ref=AH%2FN009568%2F1</p>	<p>The project sought to co-design engaging community spaces (parlours) where older people can interact with evocative objects and the accompanying app to record and share their memories and life histories. The vision is that these spaces will be co-curated by and for residents, care staff, families and community members.</p>	<p>AHRC</p> <p>Nov 16 – Oct 17</p> <p>£80,630</p>
<p>Cyberselves: How Immersive Technologies will impact our Future Selves</p> <p>University of Sheffield</p> <p>http://gtr.ukri.org/projects?ref=AH%2FR004811%2F1</p>	<p>Through collaboration with a wide range of partners, this project intends to look into immersive technologies and have input into (1) the public conversation about what these technologies are for, and what they are doing to our concept of ourselves as ‘humans’ in different ‘societies’, (2) the ethical and legal challenges that such technologies will inevitably force us to confront, and (3) the direction and design of the technologies themselves.</p>	<p>AHRC</p> <p>Oct 17 – Sep 18</p> <p>£78,493</p>

Annex. Listing of assistive technology research and development projects 2017–18

Project title, contact and URL	Summary	Organisation, duration and funding
<p>'Tracking People': controversies and challenges</p> <p>University of Leeds</p> <p>https://gtr.ukri.org/projects?ref=AH%2FN005929%2F1</p>	<p>This international cross-disciplinary network will foster debate and collaboration between academics, policy-makers, designers and practitioners about the ethical, legal, social and technical issues arising from the current and future use of non-removable wearable devices that enable location monitoring or tracking of wearers by a third party. The network will explore the use of tracking devices in a number of domains, including their use with offenders, mental health patients, young people in care and people living with dementia.</p>	<p>AHRC</p> <p>Oct 16 – Mar 19</p> <p>£35,994</p>
<p>The hills are alive: combining the benefits of natural environments and group singing through immersive experiences</p> <p>University of York</p> <p>http://gtr.ukri.org/projects?ref=AH%2FR009139%2F1</p>	<p>The main outcome of the research is an immersive and interactive VR installation where individuals can participate in a group singing event on a Lake District mountain summit in VR. It provides opportunities not just for able-bodied participants to enjoy the multiple well-being benefits of singing on mountain summits, but also, uniquely, for those otherwise unable to access such activities to do so through an immersive VR experience.</p>	<p>AHRC</p> <p>Mar 18 – Oct 18</p> <p>£59,501</p>
<p>Human echolocation: Basic mechanisms and neuroplasticity</p> <p>Durham University</p> <p>https://gtr.ukri.org/projects?ref=BB%2FM007847%2F1</p>	<p>The aims of the work are to (1) investigate which areas in the human brain are associated with echolocation, (2) measure how the ageing human brain learns to echolocate and (3) measure how echolocation is related to people's 'regular' spatial hearing. The proposed work will achieve these objectives using behavioural training, psychophysical testing and magnetic resonance imaging (MRI).</p>	<p>Biotechnology and Biological Sciences Research Council (BBSRC)</p> <p>May 16 – Apr 19</p> <p>£409,942</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Pain management and patient Education for Physical Activity in Intermittent clauDiction (prePAID): feasibility randomised controlled trial</p> <p>Glasgow Caledonian University</p> <p>http://researchonline.gcu.ac.uk</p>	<p>The research team has shown that transcutaneous electrical nerve stimulation (TENS) can help to reduce pain and increase walking distance in patients with peripheral arterial disease (PAD). They have also shown in previous research that educating patients about their condition and helping them to set goals has the potential to increase physical activity and quality of life. This study will examine the feasibility of designing a definitive trial that investigates whether or not TENS can improve the physical activity of patients with PAD.</p>	<p>Chief Scientist Office of the Scottish Government Health and Social Care directorates</p> <p>Aug 17 – Oct 19</p> <p>£244,085</p>
<p>Dynamic Lycra Orthoses (DLO) as an adjunct to upper limb rehabilitation after stroke: A feasibility study and trial</p> <p>Glasgow Caledonian University</p> <p>http://researchonline.gcu.ac.uk</p>	<p>This two-stage study examined the feasibility, acceptability and potential effectiveness for upper limb recovery outcomes of dynamic lycra orthoses as an adjunct to usual rehabilitation therapy, and examined the feasibility of undertaking a full-scale trial. The intervention may provide an effective adjunct to usual therapy and to improve recovery and quality of life for stroke survivors.</p>	<p>Chief Scientist Office of the Scottish Government Health and Social Care directorates</p> <p>Sep 15 – Nov 17</p> <p>£246,181</p>
<p>Sit Less, Move More: Improving sedentary behaviour and physical activity in community-dwelling older adults; development and feasibility testing of a novel technology-supported intervention</p> <p>University of Glasgow</p>	<p>The research team have developed a new device (the Activator) to show people how long they sit and how many steps they take each day, so they can set goals to sit less and move more. An early version of the device shows promising results. The research team now aim to work with older adults to adapt the Activator and smartphone feedback for use in a new intervention to help them sit less and be more active by breaking sitting with light activities, walking, and strength and balance exercises, and by doing more things with other people. The intervention will then be tested in a small-scale study.</p>	<p>Chief Scientist Office of the Scottish Government Health and Social Care directorates</p> <p>Nov 17 – Jan 19</p> <p>£299,167</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>Ride Side by Side Cycle Training Ltd https://www.cycletraining.co.uk/about-us/contact-us-new.html</p>	<p>The project tested the feasibility of enabling people with limited mobility to make short local trips, by road, using specially adapted power-assisted cycles and accompanied by a co-rider. It offers people a cycle service in a power-assisted side-by-side cycle, whereby they pedal with a trained co-rider to make local trips of their choice within 2 miles of, or 30 minutes from, where they live. They book the service online or by phone. Additional support is offered, such as help to access the clinic/shop.</p>	<p>DfT Innovation Challenge Fund (ICF) Mar 17 – Jun 18 £44,050</p>
<p>Signly Disruption App Signly Ltd hello@signly.co</p>	<p>This project focuses on enabling better access to rail disruption information for d/Deaf (and hearing) passengers who cannot hear or might miss station announcements.</p>	<p>DfT – Transport-Technology Innovation Grants (T-TRIG) Mar 18 – Aug 18 £28,980</p>
<p>Universal train access ramp Cecence info@cecence.com</p>	<p>Laboratory testing was carried out on lightweight composite materials and structural engineering analysis to enable the development of a fully stress-tested pre-production train access ramp.</p>	<p>DfT (T-TRIG) Mar 18 – Aug 18 £30,000</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Damibu: dementia-friendly transport app</p> <p>http://www.damibu.com/contact.php</p> <p>Journey planning and wayfinding platform Zipabout</p> <p>https://www.zipabout.com/company/contact</p>	<p>This project has focused on developing a unique dementia-friendly transport app. The app acts as a companion on a given journey, directing people from their house to the hospital or any other location they are travelling to, and then to the relevant department within that hospital or other building.</p> <p>The Zipabout platform provides personalised routing to the user to help them avoid stressful environments (e.g. crowded locations or unstaffed stations). The platform is being delivered through a prototype app that will trial image recognition technologies that provide ongoing reassurance that a user is in the correct location, which could boost the confidence of unsure travellers.</p>	<p>DfT SBRI</p> <p>£120,000</p>
<p>Sensorimotor Learning for Control of Prosthetic Limbs</p> <p>Newcastle University</p> <p>https://gtr.ukri.org/projects?ref=EP%2FR004242%2F1</p>	<p>The research team seek to employ in-vivo experiments, exploratory studies involving able-bodied volunteers and pre-clinical work with people with limb loss. The insight gained from these studies will inform the design of novel algorithms to enable seamless control of prosthetic hands. Finally, the programme will culminate with a unifying theory for learning to control prosthetic hands that will be tested in an NHS-approved pre-clinical trial.</p>	<p>EPSRC</p> <p>Feb 18 – Jan 23</p> <p>£1,028,682.97</p>
<p>Physiologically inspired simulation of sensorineural hearing loss</p> <p>Cardiff University</p> <p>https://gtr.ukri.org/projects?ref=EP%2FR010722%2F1</p>	<p>This project will construct sounds that simulate the auditory experience associated with different types of hearing impairment and demonstrate that it can reproduce the patterns of problems experienced by hearing-impaired listeners.</p>	<p>EPSRC</p> <p>Mar 18 – Mar 21</p> <p>£298,015.72</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>Shape sensing textile for orthotics – SmartSensOtics</p> <p>University of Sussex</p> <p>https://gtr.ukri.org/projects?ref=EP%2FR013837%2F1</p>	<p>This research team aims to develop a smart, portable and stretchable textile sleeve with integrated sensors connected to a smartphone to realise an entirely new versatile and wearable body-shape imaging technique. The digital limb models can then be used for the computer-aided fabrication of customised orthotics, without the need for significant infrastructure.</p>	<p>EPSRC</p> <p>Feb 18 – Jan 21</p> <p>£744,204.16</p>
<p>Fit-for-purpose, affordable body-powered prostheses</p> <p>University of Salford</p> <p>https://gtr.ukri.org/projects?ref=EP%2FR013985%2F1</p>	<p>This project will bring together an experienced team from across the UK, Uganda and Jordan to create a new body-powered prosthesis that is optimised for adoption by prosthetic services in lower- and middle-income countries and acceptable to users in such countries. This will include establishing methods of fabrication, fitting and evaluation of the prosthesis that are appropriate to lower- and middle-income countries.</p>	<p>EPSRC</p> <p>Feb 18 – Jan 21</p> <p>£1,412,730</p>
<p>A Step Change in LMIC Prosthetics Provision through Computer Aided Design, Actimetry and Database Technologies</p> <p>University of Southampton</p> <p>https://gtr.ukri.org/projects?ref=EP%2FR014213%2F1</p>	<p>This research team aims to conduct two data-technology research studies to develop tools for improving prosthetic and orthotic service access, training clinicians and improving efficiency of service funding use, alongside a team of expert clinicians, academics and policy-makers in Cambodia.</p>	<p>EPSRC</p> <p>Feb 18 – Jan 21</p> <p>£909,511</p>
<p>Low cost through knee prostheses. TaKeuP</p> <p>Imperial College London</p> <p>https://gtr.ukri.org/projects?ref=EP%2FR014248%2F1</p>	<p>This research team seeks to develop a low-cost through-knee prosthesis, the initial concept for which has been developed by the applicants through prior work with partners in Cambodia. This will be developed further to create a pathway to support the translation of future technology projects and the development of a route to harness the technology developed for those in lower- and middle-income countries for the benefit of healthcare in the UK.</p>	<p>EPSRC</p> <p>Feb 18 – Jan 21</p> <p>£888,571</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Engineering a next generation physiological wrist simulator for innovation of rehabilitation protocols and surgical interventions</p> <p>Imperial College London</p> <p>https://gtr.ukri.org/projects?ref=EP%2FR020809%2F1</p>	<p>The aim of this project is to create a new custom-made joint motion simulator for the wrist that also includes the finger muscles. This work will create a unique and innovative device that is more realistic and functional by enabling the replication of the motions of the fingers in addition to the wrist.</p>	<p>EPSRC</p> <p>Apr 18 – Mar 19</p> <p>£100,809</p>
<p>Accessible routes from crowdsourced cloud services</p> <p>University College London</p> <p>https://www.disabilityinnovation.com/projects/arccs</p>	<p>The project used a crowdsourced approach to design an intelligent route-planning system for wheelchair users in an urban environment.</p>	<p>EPSRC</p> <p>Oct 14 – Sep 17</p> <p>£344,853</p>
<p>Acoustic signal processing and scene analysis for socially assistive robots</p> <p>Imperial College London</p> <p>https://gtr.ukri.org/projects?ref=EP%2FP001017%2F1</p>	<p>The aim of this research is to provide robots and machines with the ability to understand and adapt to the surrounding acoustic environment. Equipping machines with an understanding of the acoustic environment allows a robot to engage in verbal interactions with humans and to potentially provide physical aid, which could facilitate low-cost assistance for people who provide unpaid care as well as for patients who cannot rely on relatives.</p>	<p>EPSRC</p> <p>Jan 17 – Dec 19</p> <p>£330,105</p>
<p>Adaptive assistive rehabilitative technology: beyond the clinic (AART-BC)</p> <p>University of Warwick</p> <p>https://gtr.ukri.org/projects?ref=EP%2FM025543%2F1</p>	<p>Researchers designed and developed cheap, disposable, unobtrusive bio-sensors, such as temporary tattoos and smart watches, to use with patients who use wheelchairs or prosthetics and patients requiring rehabilitation, as well as with older people.</p>	<p>EPSRC</p> <p>Apr 15 – Mar 18</p> <p>£1,862,860</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>Augmenting communication using environmental data to drive language prediction</p> <p>University of Dundee</p> <p>https://ace-lp.ac.uk/</p> <p>http://aac.dundee.ac.uk/ace-lp</p>	<p>The aim of the project is to improve the communication experience of non-speaking people by enabling them to tell their stories easily and at more acceptable speeds.</p>	<p>EPSRC</p> <p>Feb 16 – Jan 19</p> <p>£1,007,560</p>
<p>Brain–computer interface for monitoring and inducing affective states</p> <p>University of Reading; Plymouth University</p> <p>https://gtr.ukri.org/projects?ref=EP%2FJ002135%2F1</p>	<p>The researchers studied a brain–computer interface that can monitor emotional states and, in combination with a database of music, generate sounds that can alter emotions. Such a system could be used to treat mood disorders such as depression.</p>	<p>EPSRC</p> <p>Aug 12 – Sep 17</p> <p>£876,103</p>
<p>ColourSpecs: a wearable colour identification system for people with impaired colour vision</p> <p>University of Dundee</p> <p>https://gtr.ukri.org/projects?ref=EP%2FP013694%2F1</p>	<p>Building on earlier work, the research will define a comprehensive colour-to-visual design space using participants with impaired colour vision. The research will identify the best candidate mappings and install them on a transparent head-mounted display to develop ColourSpecs, and compare this with competing techniques.</p>	<p>EPSRC</p> <p>Feb 17 – Jul 18</p> <p>£100,861</p>
<p>CONSULT: Collaborative Mobile Decision Support for Managing Multiple Morbidities</p> <p>King’s College London</p> <p>https://gtr.ukri.org/projects?ref=EP%2FP010105%2F1</p>	<p>The research will combine wireless ‘wellness’ sensors with intelligent software running on mobile devices to support patient decision-making, and, thus, actively engage patients in managing their healthcare. The technology will be evaluated across multiple dimensions in a proof-of-concept study, engaging stroke patients, their carers and medical professionals.</p>	<p>EPSRC</p> <p>Mar 17 – Feb 20</p> <p>£1,381,440</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Cross-model interactive tools for inclusive learning</p> <p>University of Bristol</p> <p>https://gtr.ukri.org/projects?ref=EP%2FN00616X%2F2</p>	<p>The aim of this fellowship is to research and develop interactive learning tools to make mixed classrooms more inclusive of visually impaired students.</p>	<p>EPSRC</p> <p>Mar 16 – Feb 21</p> <p>£716,108</p>
<p>Decoding the neural drive for finer and more intuitive control of a myoelectric robotic hand</p> <p>University of Essex</p> <p>https://gtr.ukri.org/projects?ref=EP%2FN031806%2F1</p>	<p>Research was conducted into the development of novel decoding algorithms to make the control of myoelectric hand prostheses more natural, intuitive and accurate. The approach used recently developed high-density surface electromyographic arrays, which record from a large number of closely spaced electrodes, combined with the most advanced signal processing and neural decoding techniques.</p>	<p>EPSRC</p> <p>Nov 16 – Mar 18</p> <p>£100,951</p>
<p>Empowering next generation implantable neural interfaces</p> <p>Imperial College London</p> <p>https://gtr.ukri.org/projects?ref=EP%2FM020975%2F1</p>	<p>This fellowship is focused on next-generation neural interfaces that can be used with assistive technologies such as prostheses or mobility aids.</p>	<p>EPSRC</p> <p>Aug 15 – Jul 20</p> <p>£1,016,560</p>
<p>Environment-aware Listener-Optimized Binaural Enhancement of Speech (E-LOBES)</p> <p>Imperial College London</p> <p>https://gtr.ukri.org/projects?ref=EP%2FM026698%2F1</p>	<p>In this project, the researchers are extending existing monaural binary masking techniques to provide binaural speech enhancement while preserving the interaural time and level differences that are critical to the spatial separation of sound sources. The researchers are also developing a metric able to predict the intelligibility of a speech signal for a binaural listener with normal or impaired hearing in the presence of competing noise sources.</p>	<p>EPSRC</p> <p>Sep 15 – Aug 18</p> <p>£983,624</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>EPSRC-NIHR HTC Partnership Award Plus Funds: Technology Network-Plus on Devices for Surgery and Rehabilitation</p> <p>Barts Health NHS Trust</p> <p>https://gtr.ukri.org/projects?ref=EP%2FN027132%2F1</p>	<p>The aim of the project and proposed network is to establish a forum for surgical innovation with seamless integrations of engineering research, clinical translation and industrial development. The network will cover three research areas that have similar challenges for research but need to be examined in different clinical contexts: sensing for improved perioperative care, smart surgical devices, and assistive devices and robots to facilitate rehabilitation in community or home care settings.</p>	<p>EPSRC</p> <p>Sep 16 – Sep 19</p> <p>£507,552</p>
<p>GetAMoveOn: transforming health through enabling mobility</p> <p>University College London Interaction Centre</p> <p>https://ucl.ac.uk/research/health-and-well-being/gamo</p>	<p>In this project, the researchers aim to use movement to improve health through developing innovative technology. They aim to concentrate on three specific groups: school children, office workers and older people.</p>	<p>EPSRC</p> <p>Jun 16 – May 20</p> <p>£923,685</p>
<p>Graphene micro-sensors for adaptive acoustic transduction</p> <p>University of Edinburgh</p> <p>https://gtr.ukri.org/projects?ref=EP%2FM026914%2F1</p>	<p>This project aimed to develop novel acoustic transduction technology for use in hearing aids. The main proposition was to use an ultra-thin film membrane (graphene) as the vibrating mechanical component in a resonant gate transistor.</p>	<p>EPSRC</p> <p>Sep 15 – Aug 17</p> <p>£477,577</p>
<p>Hub for device personalisation in the treatment of congenital diseases</p> <p>University College London</p> <p>https://gtr.ukri.org/projects?ref=EP%2FN02124X%2F1</p>	<p>This project will drive the development of bespoke devices and tailored therapies for children and young adults born with physical defects. Engineering methods and computer VR will be used to study the shape of the patient defects and design new devices that can be easily tailored to individual need, on demand.</p>	<p>EPSRC</p> <p>Apr 16 – Mar 21</p> <p>£1,002,830</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>I-DRESS</p> <p>University of the West of England</p> <p>www.brl.ac.uk/research/researchthemes/assistedliving/idressproject.aspx</p>	<p>The project aims to develop a robotic system providing disabled users with proactive assistance with getting dressed. The research is being undertaken with partner organisations in Spain and Switzerland.</p>	<p>EPSRC</p> <p>Dec 15 – Nov 18</p> <p>£305,523</p>
<p>Inclusive Digital Content for People with Aphasia (INCA)</p> <p>City, University of London</p> <p>https://gtr.ukri.org/projects?ref=EP%2FP025587%2F1</p>	<p>The aim of this project is to investigate, co-design and trial digital content tools for people with aphasia. The research will explore a blended approach to digital content, intertwining the digital and physical worlds, and will have an emphasis on co-creation with users.</p>	<p>EPSRC</p> <p>Jul 17 – Jun 20</p> <p>£496,294</p>
<p>An interactive training platform to improve manual wheelchair skills</p> <p>University of Lincoln</p> <p>https://gtr.ukri.org/projects?ref=EP%2FN023129%2F1</p>	<p>This project integrated human–computer interaction and computer vision to provide a platform for in-home interactive wheelchair skills training.</p>	<p>EPSRC</p> <p>Dec 16 – Dec 17</p> <p>£83,525</p>
<p>Machine learning for hearing aids: intelligent processing and fitting</p> <p>University of Cambridge</p> <p>https://gtr.ukri.org/projects?ref=EP%2FM026957%2F1</p>	<p>Current hearing aids suffer from two major limitations: hearing-aid audio processing strategies are inflexible and do not adapt sufficiently to the listening environment; and hearing tests and hearing-aid fitting procedures do not allow for a reliable diagnosis of the underlying nature of the hearing loss and frequently lead to poorly fitting devices. This research will use new machine-learning methods to revolutionise both of these aspects of hearing-aid technology.</p>	<p>EPSRC</p> <p>Dec 15 – Nov 18</p> <p>£565,347</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>New pathways to hearing: a multisensory noise reducing and palate based sensory substitution device for speech perception</p> <p>University College London</p> <p>https://iris.ucl.ac.uk/iris/browse/profile?upi=JISKI83</p>	<p>Commercially available correction for hearing loss is mostly limited to hearing aids and cochlear implants. These devices suffer from signal processing and sensory transduction limitations. This research aims to address these limitations through multisensory remapping.</p>	<p>EPSRC</p> <p>Dec 15 – Dec 18</p> <p>£700,744</p>
<p>Novel bio-inspired ‘smart’ joint for prosthetics and robotics lower limbs</p> <p>University of the West of England</p> <p>www.brl.ac.uk/research/researchthemes/medicalrobotics/bio-inspiredjoint.aspx</p>	<p>The researchers will investigate the feasibility and development of a novel bio-inspired prosthetic joint that will exploit the important features of the human knee joint. An investigation will be undertaken to compare the ‘smart’ joint’s energy consumption and gait efficiency with that of current prosthetics.</p>	<p>EPSRC</p> <p>Apr 17 – Apr 19</p> <p>£101,090</p>
<p>Novel directional microphone design for speech enhancement in complex environments</p> <p>University of Strathclyde</p> <p>https://gtr.ukri.org/projects?ref=EP%2FM026701%2F1</p>	<p>The primary objective of the project was to create a hearing-aid system involving microphones that can reduce or control unwanted noises, and focus the hearing aid on only the sound arriving from in front of the user. 3D printing was used to create new ways of mounting the microphones in hearing aids.</p>	<p>EPSRC</p> <p>Jul 15 – Jun 18</p> <p>£432,134</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Osteoarthritis Technology NetworkPlus (OATech+): a multidisciplinary approach to the prevention and treatment of osteoarthritis</p> <p>Cardiff University</p> <p>https://gtr.ukri.org/projects?ref=EP%2FN027264%2F1</p>	<p>A network of academics, clinicians and industry representatives is looking to provide high-level evidence of the efficacy and safety of medical devices relating to musculoskeletal disorders and osteoarthritis through clinical studies and with a high degree of user involvement. The studies will involve biology, engineering and biomechanics. The aim is to identify the challenges to technology development, which will help to ensure that future studies are conducted with the latest scientific advances incorporated.</p>	<p>EPSRC</p> <p>Oct 16 – Sep 20</p> <p>£968,486</p>
<p>Personalised fitting and evaluation of hearing aids with EEG responses</p> <p>University of Southampton</p> <p>https://gtr.ukri.org/projects?ref=EP%2FM026728%2F1</p>	<p>The project aimed to improve the personalised fitting of hearing aids. The research sought to achieve an assessment of hearing function and speech processing in the brain by the computer analysis of electroencephalographic (EEG) responses to complex real-world signals.</p>	<p>EPSRC</p> <p>Jul 15 – Jun 18</p> <p>£908,086</p>
<p>Piezoelectric nano-fibre based acoustic sensors for artificial cochlear</p> <p>University College London</p> <p>https://gtr.ukri.org/projects?ref=EP%2FM026884%2F1</p>	<p>This research seeks to enable a potential new generation of cochlear implants based on piezoelectric nano-fibre with high performance and prolonged implantation. This could improve the listening abilities offered by cochlear implants.</p>	<p>EPSRC</p> <p>Sep 15 – Aug 18</p> <p>£870,392</p>
<p>Robot House 2.0 – infrastructure for the study of smart home and autonomous robotic systems</p> <p>University of Hertfordshire</p> <p>https://gtr.ukri.org/projects?ref=EP%2FP020577%2F1</p>	<p>The funding extends the functionalities of the robotics hardware in the existing Robot House, creating the Robot House 2.0 and making it accessible to other research groups.</p>	<p>EPSRC</p> <p>Mar 17 – Mar 19</p> <p>£578,051</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>A robot training buddy for adults with autism spectrum disorder (ASD)</p> <p>Heriot-Watt University; University of Glasgow</p> <p>https://gtr.ukri.org/projects?ref=EP%2FN035305%2F1</p> <p>https://gtr.ukri.org/projects?ref=EP%2FN034546%2F1</p>	<p>The project will develop a socially competent robot training buddy that will help adults with ASD to better deal with social signals in work-related scenarios.</p>	<p>EPSRC</p> <p>Nov 16 – Apr 20</p> <p>£1,067,326</p>
<p>SCAMPI: Self-Care Advice, Monitoring, Planning and Intervention City</p> <p>City, University of London</p> <p>https://gtr.ukri.org/projects?ref=EP%2FP010024%2F1</p>	<p>The consortium is developing a new form of computerised toolkit that will allow someone living in their own home with a chronic condition, together with their relatives, carers and healthcare professionals, to self-manage both their care of the condition and life with it. People will interact with the new toolkit through a new form of intelligent visual care plan, called VIZ-CARE.</p>	<p>EPSRC</p> <p>Mar 17 – Feb 20</p> <p>£1,006,000</p>
<p>Sensor Platform for Healthcare in a Residential Environment (SPHERE)</p> <p>University of Bristol</p> <p>www.irc-sphere.ac.uk/about</p>	<p>This interdisciplinary research collaboration will develop a number of different sensors that will combine to build a picture of how we live in our homes. This information can then be used to identify issues that might indicate a medical or well-being problem.</p>	<p>EPSRC</p> <p>Oct 13 – Sep 18</p> <p>£11,683,500</p>
<p>Towards bespoke bio-hybrid prosthesis: manufacturing bio-inductive interfaces in 3D</p> <p>University of Leeds</p> <p>https://engineering.leeds.ac.uk/staff/834/Professor_Russell_Harris</p>	<p>The researchers envisage a prosthesis that will respond to biological feedback via a tissue engineered abiotic/biotic conduit between the artificial prosthetic and remaining biological muscle and nerves.</p>	<p>EPSRC</p> <p>Apr 16 – Jun 18</p> <p>£525,896</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Towards visually-driven speech enhancement for cognitively-inspired multi-modal hearing-aid devices</p> <p>University of Stirling</p> <p>https://gtr.ukri.org/projects?ref=EP%2FM026981%2F1</p>	<p>This project aims to develop a new generation of hearing aid technology that extracts speech from noise by using a camera to see what the talker is saying. The person wearing the device will be able to focus their hearing on the target talker and the device will filter out competing sound.</p>	<p>EPSRC</p> <p>Oct 15 – Sep 18</p> <p>£418,262</p>
<p>Enabling Technologies for Sensory Feedback in Next-Generation Assistive Devices (SenseBack)</p> <p>Newcastle University and Össur</p> <p>www.senseback.com/contact</p>	<p>Researchers are developing a number of important technologies to restore sensation to individuals who use prosthetic legs. The translational alliance will work together to translate the technologies developed in the SenseBack project to lower limb prostheses.</p>	<p>EPSRC</p> <p>Jun 16 – May 19</p> <p>£240,010</p>
<p>WE ARE ABLE: displays and play</p> <p>University of Central Lancashire</p> <p>http://weareable.org.uk/contact/</p>	<p>The project aimed to investigate whether wearable displays could assist children with ASD and children with visual impairment when playing with other children.</p>	<p>EPSRC</p> <p>Sep 14 – Sep 17</p> <p>£90,586</p>
<p>Wearable soft robotics for independent living</p> <p>University of Bristol</p> <p>https://therighttrousers.com/about/</p>	<p>The research team developed soft robotic clothing to enable those with mobility impairments, disabilities and age-related weakness to move easily and unaided and to live independently and with dignity. Focus groups were held in Bristol Robotics Laboratory.</p>	<p>EPSRC</p> <p>Jul 15 – Jun 18</p> <p>£2,026,740</p>

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<p>Euro-China UPC: Optimising care delivery models to support ageing-in-place: towards autonomy, affordability and financial sustainability (ODESSA)</p> <p>University of Sheffield</p> <p>www.sheffield.ac.uk/architecture/research/design-engagement-practice/odessa#tab01</p>	<p>This research sought to contribute to the processes for meeting older people’s needs by exploring the relationships between living arrangement, living environment and the design of care delivery from technological, financial, political and social perspectives. Taking account of the factors that have an impact on the different ways in which older people in China, the UK and France see care delivery, this proposal will build a common framework for the study of care delivery mechanisms and options available to older people.</p>	<p>ESRC, co-funded by Agence nationale de la recherche (ANR) and National Natural Science Foundation of China (NSFC)</p> <p>Feb 15 – Feb 18</p> <p>ESRC funding: £374,609</p>
<p>Seeing what they see: compensating for cortical visual dysfunction in Alzheimer’s disease</p> <p>University College London</p> <p>www.ucl.ac.uk/dementia-vision/seeing-what-they-see</p>	<p>The project’s objective was to demonstrate that helping people with Alzheimer’s disease to interact more successfully with their visual environment at home could lead to a significant improvement in the well-being and quality of life of both patients and carers. The project measured the effect of visual aids and strategies on a person’s ability to move around the environment and on their quality of life. The design of the visual aids and compensatory strategies themselves were based on a combination of patient/carer interviews and cutting-edge scientific understanding of the nature of visual impairments.</p>	<p>ESRC/NIHR</p> <p>Apr 14 – Mar 18</p> <p>£2,115,953</p>
<p>Tackling disabling practices: co-production and change</p> <p>University of Bristol</p> <p>www.bristol.ac.uk/sps/gettingthingschanged/about-the-project/</p>	<p>There are many areas in which research has shown what works, but in which we do not yet know how to stimulate and maintain changes in practice. This project’s aim was to develop and sustain practices on disabled people’s terms.</p>	<p>ESRC</p> <p>Apr 15 – Mar 18</p> <p>£1,346,912</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Dementia-friendly architecture: reducing spatial disorientation in dementia care homes</p> <p>Bournemouth University</p> <p>https://microsites.bournemouth.ac.uk/wayfinding/</p>	<p>This project identified the features that make buildings relatively harder or easier for people with Alzheimer's disease to navigate. The knowledge gained will allow the team to create dementia-friendly architectural guidelines for use in the design of residences for people living with Alzheimer's disease.</p>	<p>ESRC</p> <p>Dec 15 – May 18</p> <p>£215,992</p>
<p>Comprehensive approach to modelling outcome and cost impacts of interventions for dementia (MODEM)</p> <p>London School of Economics</p> <p>www.modem-dementia.org.uk/</p>	<p>This project will develop a comprehensive set of models to estimate the current and future needs, outcomes and costs of dementia care, drawing on methods from a range of disciplines, with the involvement of people living with dementia and their carers. An important outcome will be a publicly available legacy model to enable individuals and stakeholders to make their own projections of needs for care and support.</p>	<p>ESRC/NIHR</p> <p>Mar 14 – Nov 18</p> <p>£2,613,207</p>
<p>Understanding and alleviating reading difficulties in older adults</p> <p>University of Leicester</p> <p>https://www2.le.ac.uk/departments/npb/people/vm88/index</p>	<p>This project will explore issues with reading and eye movement control, with the intention of more fully revealing the basis of differences in reading ability and to inform efforts to ameliorate the difficulties that older readers experience.</p>	<p>ESRC</p> <p>Nov 14 – Nov 18</p> <p>£158,162</p>
<p>The MARQUE project: Managing Agitation and Raising QUality of Life. A project to improve quality of life in people with moderate or severe dementia</p> <p>University College London</p> <p>www.ucl.ac.uk/psychiatry/marque/about-the-project</p>	<p>This programme aims to reduce agitation and increase quality of life in people living with dementia, increasing knowledge, including how to implement findings, to improve the quality of life of those living with dementia. The research will involve observing and interviewing a wide range of people living with dementia and those who care for them at home, in care homes and at the end of life to better understand how agitation is currently managed, the barriers to good practice and how to improve care, and then to devise and test interventions.</p>	<p>ESRC/NIHR</p> <p>Mar 14 – Feb 19</p> <p>£3,269,382</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>Neighbourhoods and Dementia: a mixed methods study</p> <p>University of Manchester</p> <p>www.neighbourhoodsanddementia.org</p>	<p>This project will develop a set of core outcome measures that will involve people living with dementia and their carers in deciding what measures and priorities are important to them, including what makes a dementia-friendly neighbourhood. Technology will be used to help couples, where one person is living with dementia, to better self-manage the condition and, more importantly, their relationship; and to pilot a digitalised life story intervention for Deaf people (British Sign Language users) who live with dementia.</p>	<p>ESRC/NIHR</p> <p>May 14 – Apr 19</p> <p>£4,022,446</p>
<p>PRIDE – Promoting Independence in Dementia</p> <p>University of Nottingham</p> <p>www.institutemh.org.uk/research/projects-and-studies/current-studies/protect/246-the-pride-study</p>	<p>This study aims to identify how social and lifestyle changes may help to reduce the risk of developing dementia and disability; to better understand the social consequences of dementia; and to develop and evaluate an effective social intervention to support independence and quality of life for people living with early-stage dementia and their carers.</p>	<p>ESRC/NIHR</p> <p>Mar 15 – Feb 20</p> <p>£2,931,365</p>
<p>Sustainable care: connecting people and systems</p> <p>University of Sheffield</p> <p>http://circle.group.shef.ac.uk/sustainable-care/</p>	<p>This programme concentrates on the care needs of adults living at home with chronic health problems or disabilities, and seeks sustainable solutions to the UK's contemporary 'crisis of care'. This includes assessing the potential of emerging technologies to enhance care system sustainability; developing case studies of emerging home care models; and exploring how care technologies can be integrated to support working carers, ensuring well-being outcomes across caring networks.</p>	<p>ESRC</p> <p>Oct 17 – Mar 21</p> <p>£2,055,243</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Sustainable Care Innovation Fellowship: accelerating implementation and uptake of new technologies to support ageing in place</p> <p>University of Sheffield</p> <p>http://circle.group.shef.ac.uk/sustainable-care/</p>	<p>This research project will involve collaboration with industry partners to help them address challenges in the implementation and uptake of new technologies to support sustainable arrangements for ageing in place capable of delivering well-being outcomes for older people.</p>	<p>ESRC</p> <p>Jan 18 – Jan 21</p> <p>£248,697</p>
<p>Studentships</p> <p>Information on specific awards is not in the public domain</p>	<p>The ESRC funds three studentships relevant to assistive technology research in the areas of speech impairment in children, healthy independent ageing and dementia.</p>	<p>ESRC</p> <p>Oct 16 – Sept 22</p>
<p>Mobility and Quality of Life: improving methods of economic evaluation of assistive technologies for people with impaired mobility</p> <p>Bangor University</p> <p>http://cheme.bangor.ac.uk/mobqol</p>	<p>The project will use qualitative and quantitative research methods to develop a new preference-based instrument for measuring the quality of life of people who use wheelchairs and mobility aids.</p>	<p>Health and Care Research Wales (HCRW)</p> <p>Sept 16 – Aug 19</p> <p>£302,810</p>
<p>Over-Hear: assessing functionality of hearing aids in complex listening environments</p> <p>University College London</p> <p>https://gtr.ukri.org/projects?ref=MR%2F025659%2F1</p>	<p>This project established a consortium of researchers, engineers and clinicians to understand and develop the best means of assessing how individual listeners utilise their hearing aids in complex listening environments.</p>	<p>MRC</p> <p>Sep 15 – Oct 17</p> <p>£120,835</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>MICA: novel applications of microphone technologies to hearing aids</p> <p>Cardiff University</p> <p>https://gtr.ukri.org/projects?ref=MR%2FM025616%2F1</p>	<p>The purpose of the network was to develop and pursue ideas for improvement to hearing aid technology. Four areas of focus for this project were as follows: (1) associated application to the EPSRC will develop novel low-noise microphones to address this problem using MEMS technology; (2) addressing methods of more accurately identifying genuine feedback; (3) exploring ways of better monitoring the sound level in the ear canal and of delivering the right amplification across the frequency spectrum; and (4) exploring novel methods of reducing background noise, particularly by using multiple microphones.</p>	<p>MRC</p> <p>Sep 15 – Mar 18</p> <p>£118,271</p>
<p>Neural oscillations in health and disease</p> <p>University College London</p> <p>https://gtr.ukri.org/projects?ref=MR%2FM014762%2F1</p>	<p>This study aimed to find out whether or not altering deep brain stimulation patterns to selectively disrupt neural oscillations underlying disease symptoms can provide significant improvements in therapy by reducing treatment side effects and improving power efficiency.</p>	<p>MRC</p> <p>May 15 – Apr 18</p> <p>£265,955</p>
<p>Low-cost personalised instrumented clothing with integrated FES electrodes for upper limb rehabilitation</p> <p>University of Southampton</p> <p>https://gtr.ukri.org/projects?ref=MR%2FN027841%2F1</p>	<p>The aim of the research is to develop and evaluate personalised instrumented clothing with integrated functional electrical stimulation electrodes for upper limb rehabilitation for people who have experienced stroke.</p>	<p>MRC</p> <p>Aug 16 – Feb 19</p> <p>£882,746</p>
<p>Non-invasive brain stimulation to suppress pathological tremors</p> <p>University of Birmingham</p> <p>https://gtr.ukri.org/projects?ref=MR%2FN003446%2F2</p>	<p>Tremor is a disabling symptom in many movement disorders, estimated to affect over 3.4 million people in the UK alone. The lack of any clear pathophysiology means that there have been no new interventional tools developed for the treatment of tremor in the last 20 years. The objective of this research is to develop a non-invasive form of electrical stimulation as a realisable therapy for those who have disabling tremors.</p>	<p>MRC</p> <p>Sep 17 – Mar 19</p> <p>£246,362</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Sensory system abnormalities in childhood dystonia/dystonic cerebral palsy – are sensory networks modulated by deep brain stimulation?</p> <p>King's College London</p> <p>https://gtr.ukri.org/projects?ref=MR%2F006868%2F1</p>	<p>This study's aim is to compare changes in sensorimotor cortex EEG activity in relation to a sensory or sensorimotor task in children with different types of dystonia and to investigate whether or not such changes relate to deep brain stimulation outcome.</p>	<p>MRC</p> <p>Nov 16 – Aug 20</p> <p>£408,778</p>
<p>Brain machine interfaces based on subcortical LFP signals for neuroprosthetic control and neurofeedback therapy</p> <p>University of Oxford</p> <p>https://gtr.ukri.org/projects?ref=MR%2F012272%2F1</p>	<p>This work will establish the foundations for novel brain-machine interfaces based on signals recorded from deep brain regions that contain rich information related to movement intention and have been proven to be stable over time. The researchers will use the new framework to control a prosthetics hand with graded gripping force, to provide neurofeedback training to reduce symptoms in Parkinson's disease, and to study the role of basal ganglia in controlling and learning movements.</p>	<p>MRC</p> <p>Aug 17 – Aug 20</p> <p>£506,448</p>
<p>Auditory learning and development</p> <p>University of Nottingham</p> <p>https://gtr.ukri.org/projects?ref=MC_UU_00010%2F3</p>	<p>Findings from this research team highlight the need for an individualised approach to training and rehabilitation. They also provide converging evidence that auditory perceptual abilities in younger and older populations depend on cognitive factors such as attention, working memory and general IQ. Aspects of cognition, particularly attention, appear to be more important than bottom-up channel sharpening to improve perception through training. These findings inform work to appropriately tailor training programmes to improve speech perception in children with auditory and language-learning disorders, but also in older hearing-impaired individuals and cochlear-implant users.</p>	<p>MRC</p> <p>May 16 – Mar 22</p> <p>£882,450</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>Temporally patterned closed-loop stimulation for therapy of brain disorders</p> <p>University of Oxford</p> <p>https://gtr.ukri.org/projects?ref=MC_UU_12024%2F1</p>	<p>This team will record the rhythmic brain activity and use its features to decide when and how to stimulate in a way that will further increase normal movements and decrease side effects. They will use the strength of rhythmic activity to decide when to turn the stimulation on and off. Second, they will time a pulse of electricity on a specific part of the rhythm to improve movements as efficiently as possible.</p>	<p>MRC</p> <p>Mar 15 – Mar 20</p> <p>£2,292,000</p>
<p>Auditory scene analysis (ASA) in acoustic and electric hearing</p> <p>University of Cambridge</p> <p>https://gtr.ukri.org/projects?ref=MC_UU_00005%2F3</p>	<p>This research team will use a combination of behavioural and electrophysiological techniques to (a) study the neural basis of auditory scene analysis in normal-hearing listeners, (b) investigate its modulation by cognitive processes such as attention and language processing, (c) investigate why it is impaired in cochlear implant users and (d) develop methods to improve auditory scene analysis and other aspects of hearing in cochlear implant users.</p>	<p>MRC</p> <p>Jun 17 – Mar 22</p> <p>£321,000</p>
<p>Adaptive processing of spoken language</p> <p>University of Cambridge</p> <p>https://gtr.ukri.org/projects?ref=MC_UU_00005%2F5</p>	<p>The aim of this project is to use behavioural experiments and functional brain imaging to understand the brain mechanisms that allow healthy adult listeners to adjust to and learn from encounters with different forms of challenging spoken language. A better understanding of these mechanisms will help us understand the listening abilities of language users and to understand and remediate disorders of spoken language following sensory impairment or brain injury, or in developmental disorders.</p>	<p>MRC</p> <p>Jun 17 – Mar 22</p> <p>£305,000</p>
<p>11 Health</p> <p>http://www.11health.com/</p>	<p>The project is focused on the Ostom-i Alert, a sensor that clips onto any ostomy bag and sends Bluetooth alerts to an app on a patient's mobile device telling them when their bag is filling. This device allows patients to set personalised alerts for their bag. The device also captures useful information on volume of output that can be emailed to patients and clinicians.</p>	<p>NHS England</p> <p>SBRI Healthcare</p> <p>£894,500</p>

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<p>Ally Labs</p> <p>https://sbrihealthcare.co.uk/company/ally-labs/</p>	<p>This project aims to demonstrate the technical feasibility and benefits of an in-home early-warning system for detecting increased frailty in elderly individuals. The hub plugs into a central area of the older person's home while a secondary peripheral is attached to their keys. These two products work together to track daily living patterns, identifying unusual changes in routine and alerting carers to immediate and potential health concerns via a mobile app.</p>	<p>NHS England</p> <p>SBRI Healthcare</p> <p>£1,085,965</p>
<p>Pressure relieving support surfaces (PRESSURE 2)</p> <p>University of Leeds</p> <p>http://medhealth.leeds.ac.uk/info/400/leeds_institute_of_clinical_trials_research/1022/contact_us</p>	<p>The project investigated the difference between high-specification foam mattresses and alternating-pressure mattresses.</p>	<p>NIHR</p> <p>Mar 13 – Sep 17</p> <p>£1,856,758</p>
<p>Balance Right in Multiple Sclerosis (BRiMS): a guided self-management programme to reduce falls and improve quality of life, balance and mobility in people with Multiple Sclerosis</p> <p>Plymouth Hospitals NHS Trust</p> <p>www.plymouth.ac.uk/research/balance-right-in-multiple-sclerosis</p>	<p>Balance Right in MS is a self-management programme for people with multiple sclerosis to use in everyday life; its aim is to allow people to move more freely without worrying about falling. The researchers have spent 5 years developing the programme, which is personalised and lasts 13 weeks, and they now want to conduct a feasibility study to assess the outcomes and find out if a larger trial would be warranted.</p>	<p>NIHR</p> <p>Sep 16 – Apr 18</p> <p>£367,110</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>Big CACTUS: clinical and cost effectiveness of aphasia computer therapy compared with usual stimulation or attention control long term post stroke</p> <p>University of Sheffield</p> <p>www.sheffield.ac.uk/scharr/sections/dts/ctru/bigcactus</p>	<p>The study aimed to compare outcomes for people with persistent aphasia using computerised speech and language therapy at home with those for people receiving usual care (standard speech and language therapy provision or general daily communication activity) or attention control (daily completion of puzzle book activities).</p>	<p>NIHR</p> <p>Jan 14 – Jun 18</p> <p>£1,480,713</p>
<p>ATTILA trial: assistive technology and telecare to maintain independent living at home for people with dementia</p> <p>South London & Maudsley NHS Foundation Trust</p> <p>https://www.journalslibrary.nihr.ac.uk/programmes/hta/105002/#/</p>	<p>The study aims to find out if telecare can safely extend the time people living with dementia can continue to live independently in their own homes, and whether or not this is cost effective. It also aims to find out if it can reduce the volume of acute, unplanned admissions to hospital, if it reduces stress in families and unpaid caregivers, and whether it can increase the quality of life of people living with dementia.</p>	<p>NIHR</p> <p>Jan 13 – Sep 18</p> <p>£1,801,834</p>
<p>RATULS: robot assisted training for the upper limb after stroke</p> <p>Newcastle University</p> <p>https://research.ncl.ac.uk/ratuls/</p>	<p>The research is evaluating the impact of robot-assisted training on arm function after stroke.</p>	<p>NIHR</p> <p>Jan 14 – Sep 18</p> <p>£3,094,000</p>
<p>Identifying appropriate symbol communication aids for children who are non-speaking</p> <p>Manchester Metropolitan University</p> <p>www.rihsc.mmu.ac.uk/staff/profile.php?name=janice&surname=murray</p>	<p>The research aims to determine how to optimise clinicians' decisions about the provision of symbol communication aids.</p>	<p>NIHR</p> <p>Jan 16 – Dec 18</p> <p>£686,112</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Individually randomised controlled multi-centre trial to determine the clinical and cost effectiveness of a home-based exercise intervention for older people with frailty as extended rehabilitation following acute illness or injury, including embedded process evaluation</p> <p>Manchester Metropolitan University</p> <p>www.journalslibrary.nihr.ac.uk/programmes/hta/154307/#/</p>	<p>Frail older people admitted to hospital for acute illness are often more frail when they are discharged, which can mean that they are no longer able to perform daily tasks at home or live independently, and may need to move into a care home. The HOPE programme offers older people with frailty a 12-week physiotherapist-delivered exercise programme at home, involving five home visits and seven telephone sessions, as well as a complementary manual.</p>	<p>NIHR</p> <p>Mar 17 – May 21</p> <p>£2,038,930</p>
<p>Investigating the effectiveness and cost effectiveness of using FITNET to treat paediatric CFS/ME in the UK</p> <p>University of Bristol</p> <p>www.bristol.ac.uk/ccah/research/childdevelopmentdisability/chronic-fatigue/fitnet-nhs/</p>	<p>FITNET is an internet-based treatment for children with chronic fatigue syndrome or ME. It provides cognitive–behavioural therapy through interactive sessions that children receive at home. Children are also required to complete homework relating to the sessions. Children and their parents are supported by cognitive–behavioural therapists.</p>	<p>NIHR</p> <p>May 16 – Oct 21</p> <p>£994,430</p>
<p>Does Occupational Therapist led environmental assessment and modification reduce falls among high risk older people?</p> <p>University of York</p> <p>www.journalslibrary.nihr.ac.uk/programmes/hta/1449149/#/</p>	<p>The aim of the study is to find out if there is any reduction in falls among older people who are at increased risk of falling and have received an assessment of, and modification to, their home environment by an occupational therapist.</p>	<p>NIHR</p> <p>Jun 16 – Dec 18</p> <p>£718,067</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>Managing Adolescent first episode Psychosis: a feasibility Study (MAPS)</p> <p>Greater Manchester West Mental Health NHS Foundation Trust</p> <p>www.psychosisresearch.com/</p>	<p>The aim of the MAPS project is to investigate which treatment is best for young people experiencing a first episode of psychosis. The three options are psychological therapy alone (involving cognitive–behavioural therapy and family intervention), antipsychotic medication alone and the two treatments combined. The results will help the researchers decide if a full trial is warranted.</p>	<p>NIHR</p> <p>Mar 17 – Feb 19</p> <p>£601,481</p>
<p>A randomised controlled trial to evaluate the outcomes and mechanisms of a novel digital reasoning intervention for persecutory delusions</p> <p>King’s College London</p> <p>www.journalslibrary.nihr.ac.uk/programmes/eme/154821/#/</p>	<p>The aim of the project is to provide therapy to people experiencing paranoia using SlowMo, which helps users to reduce the pace of their thoughts, thereby helping to minimise upsetting or distressing thoughts. The therapy comprises face-to-face sessions supplemented by an interactive website, which provides games and advice, and a mobile phone app.</p>	<p>NIHR</p> <p>Feb 17 – Aug 19</p> <p>£1,324,847</p>
<p>A feasibility study and pilot trial of a modified video-feedback intervention for children and foster carers to improve mental health outcomes of children with reactive attachment disorder</p> <p>University College London</p> <p>www.journalslibrary.nihr.ac.uk/programmes/hta/1511801/#/</p>	<p>VIPP-Foster-Care is a video feedback intervention to support the carers of those children in foster care who show signs of developing reactive attachment disorder.</p>	<p>NIHR</p> <p>Mar 17 – Aug 19</p> <p>£484,959</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>A tailored, cognitive behavioural approach intervention for mild to moderate anxiety and/ or depression in people with chronic obstructive pulmonary disease (COPD): a randomised controlled trial (TANDEM Tailored intervention for ANxiety and DEpression Management in COPD)</p> <p>Queen Mary University of London</p> <p>www.qmul.ac.uk/blizard/research/centres/centre-for-primary-care-and-public-health/research-projects/tandem/</p>	<p>A new cognitive-behavioural therapy-based intervention, TANDEM, is aimed at reducing anxiety and depression in people with chronic obstructive pulmonary disease, a condition that can lead to repeated admissions to hospital and low quality of life. Many people with this condition experience anxiety and depression but there are currently low uptake rates of pulmonary rehabilitation, which can reduce the symptoms of both. The effectiveness and cost-effectiveness of TANDEM prior to pulmonary rehabilitation, compared with pulmonary rehabilitation alone, will be assessed in this project.</p>	<p>NIHR</p> <p>Apr 17 – Jun 20</p> <p>£1,677,686</p>
<p>Investigating SOcial Competence and Isolation in children with Autism taking part in LEGO-based therapy clubs In School Environments (I-SOCIALISE)</p> <p>Leeds and York Partnership NHS Foundation Trust</p> <p>www.comic.org.uk/research/lego</p>	<p>The aim of the project is to use LEGO-based therapy to equip children with autism spectrum disorder with the necessary social skills for day-to-day life. This is done by using LEGO to make social interactions interesting to the children. The researchers want to find out if using LEGO therapy in schools would affect the social competence of children with autism spectrum disorder, as well as reducing their social isolation.</p>	<p>NIHR</p> <p>Jan 17 – Dec 20</p> <p>£971,711</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>A non-inferiority randomised controlled trial comparing the clinical and cost-effectiveness of one session treatment (OST) with multi-session cognitive behavioural therapy (CBT) in children with specific phobias</p> <p>Leeds and York Partnership NHS Foundation Trust</p> <p>https://www.sheffield.ac.uk/scharr/sections/dts/ctru/aspect</p>	<p>One-session therapy, an alternative to usual cognitive–behavioural therapy, is currently used successfully with adults but has not yet been tested for use with children. The researchers plan to compare one-session therapy with multi-session cognitive–behavioural therapy for the treatment of specific phobias in children, which can severely affect quality of life.</p>	<p>NIHR</p> <p>Jul 16 – Jun 20</p> <p>£1,371,954</p>
<p>A pragmatic Randomised Controlled Trial of Sensory Integration Therapy versus usual care for sensory processing difficulties in Autism Spectrum Disorder (ASD) in children: impact on behavioural difficulties, skills and socialisation (SenITA)</p> <p>Cardiff University</p> <p>https://www.journalslibrary.nihr.ac.uk/programmes/hta/1510604/#/</p>	<p>It is common for children with ASD to experience difficulty processing sensory information (sight, touch, sound, smell and taste), and such problems can affect a child’s ability to socialise and integrate into everyday life, as well as their behaviour. To address this, the researchers aim to find out whether or not delivered sensory integration using occupational therapist improves outcomes compared with usual care.</p>	<p>NIHR</p> <p>Jan 17 – Mar 20</p> <p>£1,193,553</p>
<p>Improving the Wellbeing of people with Opioid Treated CHronic pain: I-WOTCH</p> <p>University of Warwick</p> <p>https://warwick.ac.uk/fac/med/research/ctu/trials/iwotch/</p>	<p>This research seeks to test the effect of I-WOTCH, a supportive self-management and information/advice intervention about coming off opioid drugs, on people’s ability to get on with normal activities (e.g. work, family and social life), and opioid use, compared with usual care.</p>	<p>NIHR</p> <p>Sep 16 – Nov 19</p> <p>£1,575,854</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>A Randomised Controlled Trial of the Effectiveness of PDSAFE to prevent Falls among People with Parkinson's Disease</p> <p>University of Southampton</p> <p>www.journalslibrary.nihr.ac.uk/programmes/hta/105721/#/</p>	<p>This study in people with Parkinson's disease compared (1) PDSAFE (a novel personalised treatment based on the latest published research evidence and the researchers' extensive experience of managing the movement and stability problems experienced by people with Parkinson's disease) and routine care with (2) provision of a Parkinson's information DVD and routine care, with a falls education booklet given at the end of the trial.</p>	<p>NIHR</p> <p>May 13 – Nov 17</p> <p>£1,947,930</p>
<p>Reducing rates of avoidable hospital admissions: optimising an evidence-based intervention to improve care for Ambulatory Care Sensitive conditions in nursing homes</p> <p>Bradford Teaching Hospitals NHS Foundation Trust</p> <p>www.journalslibrary.nihr.ac.uk/programmes/pgfar/RP-PG-0612-20010/#/</p>	<p>This study looked at whether or not hospital admissions could be reduced by best primary care for osteoarthritic injuries.</p>	<p>NIHR</p> <p>Mar 15 – Apr 18</p>
<p>PROvision of braces for Patients with knee OsteoArthritis (PROP OA): a randomised controlled trial</p> <p>North Staffordshire Clinical Commissioning Group</p> <p>www.journalslibrary.nihr.ac.uk/programmes/hta/1616003/#/</p>	<p>This mixed-methods evidence synthesis followed by economic modelling will be conducted to determine the relative costs and effects of early powered mobility. Published evidence, grey literature and other existing economic data from NHS and third-sector organisations will be used. An upfront logic model will be used as a conceptual starting point and cumulatively developed throughout the review.</p>	<p>NIHR</p> <p>Sep 18 – Nov 22</p> <p>£1,622,564</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>Cost-effectiveness of earlier provision of powered mobility interventions for children with mobility limitations: evidence synthesis and economic model</p> <p>Bangor University</p> <p>www.journalslibrary.nihr.ac.uk/programmes/hta/177001/#/</p>	<p>This cluster randomised controlled trial, cost-effectiveness analysis and process evaluation will assess the provision of powered mobility interventions for children with mobility limitations.</p>	<p>NIHR</p> <p>Apr 18 – Jun 19</p> <p>£251,448</p>
<p>Evaluating the effectiveness and cost effectiveness of Dementia Care Mapping to enable person-centred Care for people with dementia and their carers: a UK cluster randomised controlled trial in care homes (DCM EPIC trial)</p> <p>Leeds Beckett University</p> <p>www.journalslibrary.nihr.ac.uk/programmes/hta/111513/#/summary-of-research</p>	<p>This study built on previous work undertaken in Australia to show whether or not dementia care mapping is effective and good value for money in care homes in the UK.</p>	<p>NIHR</p> <p>Sep 13 – Dec 17</p> <p>£2,434,490</p>
<p>The Project About Loneliness and Social networks (PALS) study</p> <p>University of Southampton</p> <p>www.journalslibrary.nihr.ac.uk/programmes/phr/160841/#/</p>	<p>This research will evaluate the acceptability, effectiveness and cost-effectiveness of implementing the GENIE intervention to reduce loneliness and unwanted social isolation of adults within a community setting.</p>	<p>NIHR</p> <p>Mar 18 – Feb 21</p> <p>£976,212</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>A trial to evaluate an extended rehabilitation service for stroke patients (EXTRAS)</p> <p>Newcastle University</p> <p>www.journalslibrary.nihr.ac.uk/programmes/hta/103701/#/</p>	<p>The development of longer-term stroke rehabilitation services is limited by a lack of evidence of the effectiveness of specific interventions and service models. This study will evaluate a new, extended stroke rehabilitation service that will commence when early supported discharge ends.</p>	<p>NIHR</p> <p>Oct 12 – May 18</p> <p>£1,646,334</p>
<p>Increasing physical activity in children with long term physical disabilities using a personalised gaming system</p> <p>MIRA Rehab Limited</p>	<p>This study seeks to build substantially on a clinically validated platform (MIRA) to develop a suite of child-centred interactive video games that can be used to contribute to physical and cognitive development. The games will be for children with long-term physical and cognitive disabilities to use at home, at school and alongside clinicians.</p>	<p>NIHR</p> <p>Jan 18 – Dec 18</p> <p>£149,836</p>
<p>Immersive virtual reality to transform the lives of patients with psychosis</p> <p>Oxford Health NHS Foundation Trust</p> <p>www.psych.ox.ac.uk/research/oxford-cognitive-approaches-to-psychosis-o-cap/projects-1/copy_of_overcoming-persecutory-delusions</p>	<p>VR therapy involves wearing a headset and interacting with computer-generated people. Uniquely, the VR therapy in this study will use a virtual coach to guide the user through their thoughts, feelings and responses in social situations. People with psychosis and NHS staff will work together to develop the VR therapy to ensure the best user experience. A further consultation process will produce a guide to using VR in NHS psychosis services.</p>	<p>NIHR</p> <p>Jun 18 – May 21</p> <p>£395,7119</p>
<p>Virtual Reality Prosthetics Training System</p> <p>Sheffield Teaching Hospitals NHS Foundation Trust</p>	<p>Building on a VR pilot study, this research will focus on building a VR system that improves the current NHS training for patients to enable them to get a myoelectric prosthetic arm. They could also use the system to learn how to become an advanced user once they have the arm. Digital gaming methods will be used to make the training fun. Therapists will be shown how to set up and use the system in clinics. Patients will also be able to take the system home to practise.</p>	<p>NIHR</p> <p>Oct 17 – Mar 20</p> <p>£445,339</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>Development of a Device for the Motorised Rehabilitation of Walking (MoRoW-3)</p> <p>University of Manchester</p> <p>www.hra.nhs.uk/planning-and-improving-research/application-summaries/research-summaries/anthropometric-data-for-morow-3/</p>	<p>This proposal was to develop a robot (called the Motorised Rehabilitation of Walking: MoRoW-3) to retrain sit-to-stand and walking for people with severe disabilities that is ready for commercial production and clinical trials. This application involved the largest relevant group of potential users, namely people with stroke, but MoRoW-3 is suitable for other clinical groups with a similar degree of disability.</p>	<p>NIHR</p> <p>Aug 14 – Apr 18</p> <p>£895,215</p>
<p>Assessment and Treatment of patients with Amblyopia using interactive binocular computer games</p> <p>Nottingham University Hospitals NHS Trust</p>	<p>This team have developed a treatment for amblyopia that has been shown to improve vision. The current system is hospital based, and the aim is to modify it for home use while developing additional improvements.</p>	<p>NIHR</p> <p>Sep 14 – Dec 18</p> <p>£902,919</p>
<p>Mechanical Muscle Activity with Real-time Kinematics (M-MARK): A novel combination of existing technologies to improve arm recovery following stroke</p> <p>University of Southampton</p> <p>www.southampton.ac.uk/healthsciences/research/projects/m-mark.page</p>	<p>M-MARK helps stroke patients regain arm function by supporting them in undertaking independent home exercise. M-MARK provides feedback on an iPad, either using an avatar or through successfully playing games.</p>	<p>NIHR</p> <p>Nov 15 – Jun 18</p> <p>£1,016,576</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Enhancing the quality of psychological interventions delivered by telephone (EQUITY)</p> <p>Greater Manchester Mental Health NHS Foundation Trust</p>	<p>This project will focus on improving the way in which psychological interventions are delivered over the telephone so that people can be sure to get the care they need. IAPT data will be explored to understand which groups of people have the greatest difficulties with telephone-delivered treatments. Patients and professionals will be consulted, and the knowledge gained from these approaches will be used to develop an intervention to help services improve the quality of telephone treatments.</p>	<p>NIHR</p> <p>Apr 18 – Oct 23</p> <p>£2,524,745</p>
<p>Feasibility study of an RCT to investigate the effectiveness of a humanoid robot to support social skills development in children with an Autism Spectrum Disorder</p> <p>Hertfordshire Community NHS Trust</p> <p>https://bmjopen.bmj.com/content/7/6/e017376</p>	<p>The aim of the present research is to conduct a feasibility of a full-scale trial that will compare the social skills of children with ASD who (1) interact with KASPAR, (2) interact with a researcher only and (3) receive usual care. Sixty children newly diagnosed with ASD will be randomly allocated to one of the three groups.</p>	<p>NIHR</p> <p>Dec 16 – Nov 18</p> <p>£239,903</p>
<p>Feasibility of a RCT of the Active Communication Education (ACE) programme plus hearing-aid provision versus hearing-aid provision alone</p> <p>Bradford Teaching Hospitals NHS Foundation Trust0</p> <p>https://www.hra.nhs.uk/</p>	<p>This study will involve new hearing-aid users and a family member or friend. They will be randomly assigned to receive the ACE programme or their usual treatment. Those in the ACE programme will attend five weekly 2-hour sessions of ACE delivered by an audiologist. The study will establish if communication, quality-of-life and hearing-aid benefit can be measured and will ask participants and clinicians what they thought of ACE.</p>	<p>NIHR</p> <p>Feb 17 – Jan 19</p> <p>£249,935</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>Feasibility of conducting a multi-centre randomised controlled trial to assess the effectiveness and cost-effectiveness of digital hearing aids in patients with tinnitus and hearing loss</p> <p>Nottingham University Hospitals NHS Trust</p> <p>www.nottingham.ac.uk/nctu/trials/hearing.aspx</p>	<p>This study, involving five audiology departments, will seek to see if it is feasible to undertake a larger randomised controlled trial to assess whether or not digital hearing aids are effective for participants with tinnitus and hearing loss.</p>	<p>NIHR</p> <p>Apr 18 – Apr 20</p> <p>£249,884</p>
<p>Evaluation of Point OutWords, a Motor Skills Intervention to Promote Language Development in Non-Verbal Children with Autism: A Feasibility Study</p> <p>Cambridgeshire and Peterborough NHS Foundation Trust</p> <p>http://PointOutWords.online/</p>	<p>In a user-centred design process partnered with clients with ASD and their therapists, this team have developed Point OutWords, an iPad app-based communication training system. This feasibility project will evaluate the ability to recruit and to retain families in sufficient numbers, families' ability to accept and to use Point OutWords as recommended, and the practicality for families and utility in controlled-trial outcome measurement of several tests that could be used to measure improvements produced by Point OutWords.</p>	<p>NIHR</p> <p>Jun 18 – Dec 19</p> <p>£250,000</p>
<p>The feasibility of using BioFeedback to reduce Pain in people with Knee Osteoarthritis (BEPKO)</p> <p>Salford Royal NHS Foundation Trust</p>	<p>Using a technique known as electromyography, patients with knee osteoarthritis can see this muscle activity on easy-to-understand computer software. Patients can then be given specific exercises and instructions (using appropriate imagery) on how to contract the muscles differently to reduce pressure on the knee joints. This study will focus on refining the four components of the intervention by working closely with patients with knee osteoarthritis and interviewing them to understand their views on how it can be improved. This will allow the new treatment to be optimised.</p>	<p>NIHR</p> <p>Apr 18 – Oct 19</p> <p>£161,445</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Patient acceptability of a novel prosthetic device: a randomised feasibility study in older patients with vascular-related amputations and multimorbidities</p> <p>Hull and East Yorkshire Hospitals NHS Trust</p> <p>www.isrctn.com/ISRCTN15043643</p>	<p>This study aims to test whether or not it is possible to conduct a large randomised controlled trial comparing a standard foot-ankle prosthesis with a new version in older patients who have vascular-related amputations and multimorbidities.</p>	<p>NIHR</p> <p>Apr 18 – Mar 20</p> <p>£248,894</p>
<p>Feasibility of a RCT to examine the effectiveness of auditory-cognitive training to improve hearing aid users' speech perception outcomes, compared with hearing aids alone</p> <p>Nottingham University Hospitals NHS Trust</p>	<p>This research builds on previous work that has shown that computer games designed to help people practice listening to speech can improve cognition and listening abilities for people with hearing loss and hearing aid users. These games, termed auditory training, could help patients better understand speech in noise, thereby improving communication, which can in turn improve quality of life. This feasibility study will explore whether or not a large trial could work to understand the benefits of these games for patients.</p>	<p>NIHR</p> <p>Apr 18 – Sep 19</p> <p>£249,414</p>
<p>Early electrical stimulation to the wrist extensors and wrist flexors to prevent the post-stroke complications of pain and contractures in the paretic arm – a feasibility study</p> <p>Nottingham University Hospitals NHS Trust</p> <p>www.nottingham.ac.uk/research/groups/strokerehabilitation/projects/escaps.aspx</p>	<p>This study will evaluate the feasibility of running a definitive trial to ascertain the efficacy of using early, intensive electrical stimulation to prevent post-stroke complications in the affected arm.</p>	<p>NIHR</p> <p>Apr 15 – Mar 18</p> <p>£234,871</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>A multi-centre randomised controlled trial to assess the effectiveness and cost effectiveness of a home-based self-management standing frame programme in people with progressive MS</p> <p>Plymouth Hospitals NHS Trust</p>	<p>This study will assess the effectiveness of a home-based, self-management standing programme (with advice and support) for people with progressive MS, when compared with their usual care or with usual care alone. A range of outcomes, including motor function and balance, will be measured at intervals throughout the study and compared between the groups.</p>	<p>NIHR</p> <p>May 15 – Jul 18</p> <p>£343,761</p>
<p>Mobilising knowledge to improve assistive technology commissioning, service provision and sustained implementation</p> <p>University of Hertfordshire</p> <p>www.nihr.ac.uk/research-and-impact/research/career-development-awards.htm</p>	<p>An aim of this project is to produce guidance that helps professionals consider what they need to know to develop an assistive technology service that will improve experiences for people using it and improve the delivery of care.</p>	<p>NIHR</p> <p>May 18 – Apr 21</p>
<p>Can smartphone and teleconferencing technology be used to deliver an effective home exercise intervention to prevent falls amongst community dwelling older people? A feasibility RCT</p> <p>University of Manchester</p> <p>www.nihr.ac.uk/research-and-impact/research/career-development-awards.htm</p>	<p>This study will explore whether or not the use of smartphone and teleconferencing technology can help to deliver effective one-to-one and group home exercise to prevent falls in older people.</p>	<p>NIHR</p> <p>Jan 16 – Jul 20</p> <p>£300,929</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Is there a clearer role for telecare in adult social care that will deliver better outcomes for older people?</p> <p>King's College London</p>	<p>This study aimed to understand local authority perspectives about what strategic aims telecare is intended to serve and the basis for their decisions about commissioning. Additionally, and taking as 'given' that telecare may not necessarily produce better outcomes for recipients, it aimed to explore reasons for continuing investment, and considered if changes to ways telecare is used could improve outcomes. Finally, materials to support adaptive learning among commissioners were developed to make their decisions about the successful use of telecare better evidenced, particularly in relation to supporting care at home.</p>	<p>NIHR</p> <p>Jan 16 – Sep 17</p> <p>£176,228</p>
<p>Exploring the use of the internet as a support tool for older family carers of people with dementia</p> <p>University College London</p> <p>https://www.spcr.nihr.ac.uk/projects/exploring-the-use-of-the-internet-as-a-support-tool-for-older-family-carers-of-people-with-dementia</p>	<p>This research will involve interviewing older carers (aged 65+ years) about their views on using an internet-based carer support tool at home. Findings will be combined with those of another study exploring the support needs of family carers of people living with dementia at the end of life and designing a support tool that will be tested with carers.</p>	<p>NIHR</p> <p>May 16 – Aug 18</p> <p>£38,673</p>
<p>NOTEPAD: Non-Traditional providers to support the management of Elderly People with Anxiety and Depression: a feasibility study</p> <p>Keele University</p> <p>www.journalslibrary.nihr.ac.uk/programmes/hsdr/135434/#/</p>	<p>The aim of this study was to refine an intervention to improve mental well-being in depressed or anxious older people living at home through reducing loneliness and encouraging the older person to engage in existing third-sector activities. A follow-on feasibility study was planned to evaluate the acceptability and uptake of the intervention and to make recommendations for a full trial.</p>	<p>NIHR</p> <p>Sep 15 – Dec 17</p> <p>£256,191.78</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>Autism Spectrum Social Stories In Schools Trial 2 (ASSIST2): A randomised controlled trial and economic evaluation of a Social Stories intervention to address the social and emotional health of children with ASD in primary schools</p> <p>Leeds and York Partnership NHS Foundation Trust</p> <p>www.journalslibrary.nihr.ac.uk/programmes/hta/1611191/#/</p>	<p>This pragmatic cluster randomised controlled trial aims to examine the effectiveness and cost-effectiveness of Social Stories for children with autism spectrum disorder and challenging daily behaviour. This design was drawn from the successful Health Technology Assessment (HTA) feasibility study (ASSIST).</p>	<p>NIHR</p> <p>Jun 18 – Nov 21</p> <p>£1,081,529.49</p>
<p>A pilot randomised controlled trial of one to one befriending by volunteers for people with intellectual disability (ID)</p> <p>University College London</p> <p>www.journalslibrary.nihr.ac.uk/programmes/phr/1612257/#/</p>	<p>This team aim to carry out a pilot randomised controlled trial of one-to-one befriending by volunteers of people with intellectual disability, compared with usual care and a booklet of community resources.</p>	<p>NIHR</p> <p>Jul 18 – Jun 20</p> <p>£357,767.74</p>
<p>Bathing adaptations in the homes of older adults</p> <p>University of Nottingham</p> <p>www.sscr.nihr.ac.uk/P90</p>	<p>Housing adaptations have been identified as one of the top 10 prevention services for older adults, with improvements to bathing facilities being the most requested. However, many local authorities have lengthy waiting times that may increase costs, reduce effectiveness and reduce the preventative effect. Furthermore, there is no strong evidence of the effect of these adaptations on health, well-being and functional ability. This research tested whether or not it was feasible to conduct a randomised controlled trial of bathing adaptations for older adults and their carers.</p>	<p>NIHR</p> <p>Mar 16 – Dec 17</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Effectiveness of alternative listening devices to conventional hearing aids for adults with hearing loss</p> <p>University of Nottingham</p> <p>www.hearing.nihr.ac.uk/about-us/staff/bio/dr-david-maidment</p>	<p>These researchers conducted a systematic review to assess whether or not alternative listening devices are an effective intervention for adults with hearing loss. These devices include hearing aids that can be customised using a smartphone, smartphone-based 'hearing aid' apps, personal sound amplification products and wireless hearing products.</p>	<p>NIHR</p> <p>Oct 15 – Mar 18</p>
<p>F.R.A.M.E. (facial remote activity monitoring eyewear): an inconspicuous, non invasive, mobile sensor device for real-time control of assistive technologies through facial expression</p> <p>Nottingham Trent University</p> <p>www.researchgate.net/publication/324007475_FRAME_-_FACIAL_REMOTE_ACTIVITY_MONITORING_EYEWEAR</p>	<p>The aim of the project is to develop an inconspicuous, non-invasive mobile sensor device for the real-time control of assistive technologies using facial expression.</p>	<p>NIHR</p> <p>Jul 16 – Jul 18</p> <p>£846,293</p>
<p>A feasibility study to investigate the effects of a functional standing frame programme in people with severe sub-acute stroke on function, quality of life and neuromuscular impairment; and a systematic review on non-pharmacological interventions for orthostatic hypotension</p> <p>University of Plymouth</p> <p>www.plymouth.ac.uk/staff/angie-logan</p>	<p>The aim of the study is to find out if it is possible and practical to use a functional standing frame programme with people with severe stroke in the subacute hospital setting.</p>	<p>Health Education England (HEE)/NIHR</p> <p>Apr 16 – Mar 19</p> <p>£269,711</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>A feasibility trial of Power Up: a smartphone and tablet app to support young people to make shared decisions in therapy</p> <p>University College London</p> <p>www.ucl.ac.uk/ebpu/about/EBPU_Staff_Profiles/Miranda_Wolpert</p>	<p>The researchers sought to develop a smartphone and tablet app called 'Power Up' to support young people to have their say when accessing child and adolescent mental health services.</p>	<p>NIHR</p> <p>Sep 15 – Mar 18</p> <p>£463,600</p>
<p>Frame fit: randomised controlled trial to determine the acceptability, safety and efficacy of a falls prevention exercise programme for walking frame users</p> <p>King's College Hospital NHS Foundation Trust</p> <p>www.kch.nhs.uk/news/public/news/view/16541</p>	<p>This aim of this study was to find out if an exercise programme specifically designed for walking-frame users improves balance and reduces falls. The programme consisted of eight home visits from a physiotherapist, during which exercises were prescribed to the participant, plus a booklet and necessary equipment. In addition, the participants received telephone support from the physiotherapist.</p>	<p>HEE/NIHR</p> <p>Apr 14 – Mar 18</p> <p>£157,871</p>
<p>Prefabricated and custom orthoses in early rheumatoid arthritis (PREACHER)</p> <p>University of Leeds</p>	<p>Foot pain and deformity affect up to 90% of patients with rheumatoid arthritis and substantially affect their quality of life. The researchers aimed to gain new insights into foot deformity and explore the potential of a range of insoles to prevent these irreversible changes from developing.</p>	<p>NIHR</p> <p>Jan 14 – Apr 18</p> <p>£430,408</p>
<p>Speech Rehabilitation from Articulator Movement (SRAM)</p> <p>Practical Control Limited</p> <p>www.practicalcontrol.co.uk/contact.html</p>	<p>This study focused on a technique that uses small magnetic implants and sensors to detect movements of the mouth and tongue that it converts directly into speech. In this project, further development, improvement and evaluation of the system were undertaken.</p>	<p>NIHR</p> <p>Jan 16 – Apr 18</p> <p>£655,678</p>

Project title, contact and URL	Summary	Organisation, duration and funding
<p>Technology enriched supported housing: a study into the lived experience of older people with dementia and their carers</p> <p>https://www.ulster.ac.uk/staff/s-martin</p>	<p>This research is exploring the lived experience of people living with dementia and their carers when a technology-enriched supported housing model is the living option of choice.</p>	<p>Public Health Agency and The Atlantic Philanthropies</p> <p>Jan 15 – Oct 18</p> <p>£385,490</p>
<p>A feasibility study of facilitated reminiscence for people with dementia</p> <p>https://www.hra.nhs.uk/planning-and-improving-research/application-summaries/research-summaries/a-feasibility-study-of-reminiscence-for-people-living-with-dementia/</p>	<p>The aim of this study is to investigate the effects of individual specific reminiscence activity facilitated through the use of bespoke software among people living with dementia and their family carers. The objectives are to (1) identify and refine the specification for the software (MemoryLane) and its application to tablet devices, (2) test the usability of the revised system, (3) examine the impact of facilitated reminiscence activity on the person living with dementia and their family carer using a range of outcome measures, (4) explore users' views on MemoryLane, (5) enhance independence and quality of life and (6) incorporate a health economic component that will inform the design of a potential future cost-effectiveness analysis from a societal perspective alongside a randomised controlled trial.</p>	<p>Public Health Agency and The Atlantic Philanthropies</p> <p>Mar 15 – Oct 18</p> <p>£278,604</p>
<p>Development and piloting of a prehabilitation behavioural change and physical activity intervention for fibromyalgia syndrome (FMS)</p>	<p>Fibromyalgia syndrome is a chronic pain condition that has a major impact on quality of life. Guidelines emphasise the importance of physical activity in the management of fibromyalgia syndrome; however, those with the condition find engaging in exercise extremely challenging. Prehabilitation is defined as the process of enhancing the individual's functional capacity to enable him or her to withstand a future stressful event. This study aims to develop a prehabilitation behavioural change intervention that will give patients the psychological and physical capability to engage in physical activity.</p>	<p>Public Health Agency and The Atlantic Philanthropies</p> <p>Jan 18 – Jul 19</p> <p>£38,434</p>

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Project title, contact and URL	Summary	Organisation, duration and funding
<p>A feasibility study of a pedometer based intervention for patients with Myeloproliferative neoplasms (MPN)</p>	<p>The primary aim of this study was to assess the feasibility of a walking intervention (two arms: pedometer plus information, and pedometer plus nurse-led intervention) in MPN patients compared with standard care. The secondary aims were to reduce patient fatigue and other symptoms and improve quality of life.</p>	<p>Public Health Agency and The Atlantic Philanthropies</p> <p>Sep 17 – Feb 18</p> <p>£36,858</p>
<p>Tactile Collider: an interactive event for the blind and partially sighted</p> <p>https://gtr.ukri.org/projects?ref=ST%2F000215%2F1</p>	<p>This first-of-a-kind project aims to communicate the science, encourage excitement and develop an interest in particle physics, the Large Hadron Collider and the Higgs boson in a large and previously untargeted demographic group. The main target audiences are children (aged 10–18 years) and adults who are blind or visually impaired (collectively VI), along with their carers and teachers, an audience not considered in established particle and accelerator physics public engagement activities but who make up 2 million of the UK’s population.</p>	<p>Science and Technology Facilities Council (STFC)</p> <p>Oct 16 – Sep 18</p> <p>£98,179</p>
<p>The Tactile Universe: accessible astrophysics for vision impaired school children</p> <p>http://www.icg.port.ac.uk</p>	<p>The Tactile Universe is an award-winning public engagement project at the Institute of Cosmology and Gravitation, University of Portsmouth. The project aims to make astrophysics research accessible to people with vision impairments, with a particular focus on children aged 9–14 years.</p>	<p>STFC</p> <p>Apr 18 – Jun 19</p> <p>£44,468</p>

In addition to the projects outlined in the above table, work has been undertaken across a number of infrastructure projects where support and funding can often come from multiple sources. Below are some of the examples of such projects focused on assistive technologies.

Organisation	Project	Summary
NIHR Clinical Research Network (NIHR CRN) supported project	EVOTION project www.entandaudiologynews.com	The EVOTION project aims to use big data platforms to inform public health policies related to prevention, diagnosis, long-term treatment and rehabilitation for hearing loss. The EVOTION project is the first of its kind not only in audiology but also in public health. Clinicians and hearing-aid users in the study will be pioneering techniques that could benefit people with hearing impairments and could be applied to population-based health research in other medical specialties.
NIHR CRN supported project	N/A	This collaborative project will seek CRN adoption and aims to develop and validate (in Phase I trials) a new personalised hologram coach platform to virtually coach, motivate and empower the ageing population with balance disorders. The coaching part will be realised by holograms and augmented reality games, along with easy-to-use sensors that can be customised to implement and coach the user with specific, individualised exercises, offering new forms of accessible user interaction. The accuracy in performance of the exercises will be measured objectively in real time through a set of motion-capture and wearable sensors, while experts will monitor the status through a visual analytics expert panel.
Innovate UK contribution to the AAL (formerly Ambient Assisted Living Project)	VUK	The goal of the VUK project is to support the daily living of blind and visually impaired people to participate in urban mobility by providing a simple, effective and affordable door-to-door navigation and mobility assistance solution. VUK targets both outdoor and indoor navigation, which includes travelling through unfamiliar indoor environments and visiting complex buildings (e.g. shopping malls, business centres and public offices). The aim of the project is to design and develop a service framework to provide a truly door-to-door navigation service, which is currently missing from the market.

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Organisation	Project	Summary
Innovate UK	MyMate	The MyMate ICT solution aims to apply a gamification approach to create a network of motivated, healthy, agile elderly volunteers who will act as 'human sensors' in the implementation of 'care in the community' programmes for elderly people. The aim of the project is to develop a sustainable environment centred on ICT.
Innovate UK, ICE Creates and NHS/North West Coast AHSN and Lancashire Care NHS Foundation Trust	ENSAFE	<p>ENSAFE envisages the creation of a supportive platform for independent living, integrating different components that were conventionally thought of as independent devices:</p> <ul style="list-style-type: none"> • mobile communication and sensing • home environment monitoring • telemedicine products and physiological sensors. <p>The new solution is to efficiently link life and home environment sensors to the smart mobile device. It will allow for a detailed overview of the user's activity and well-being through data coming from the personal mobile device and from interaction with the environment.</p>
Innovate UK contribution to the AAL programme with Cybermoor	Active Advice	The Active Advice project's primary objective is to create decision support solutions for independent living using an intelligent AAL product and service cloud.
Innovate UK contribution to the overall AAL programme with six partners including Can Cook and Red Ninja	Cordon Gris	The aim of Cordon Gris is to assist older people in maintaining a healthy and independent life on a budget by providing meal recommendations, keeping track of health and assisting with grocery shopping. Through a system with friendly user interfaces, Cordon Gris will help users plan their meals and manage their budget without compromising the quality of their diet.
Innovate UK contribution to the overall AAL programme. This project had eight partners including one UK organisation, KG&S Ltd	EDLAH2	EDLAH2 will take uniquely designed apps installed on a tablet device and add gamification principles to these as a package. This will encourage usage of the apps and, in turn, improve/maintain the older person's quality of life. For example, a steps count provided by a wearable wristwatch/band will show the count against a pre-set target, and if the target is achieved then a reward is given and displayed.

Organisation	Project	Summary
<p>Innovate UK contribution to the overall AAL programme. Partners include UK business TMS and Telemedic Systems</p>	<p>My Life, My Way Active</p>	<p>The My Life, My Way project will provide a personal virtual assistant that enables large groups of people to live independently for longer by giving them an easy-to-use, very natural way to interact with supporting technology. The personal assistant is the result of a reliable and innovative technology. It is able to learn autonomously from its users, their personal preferences and needs. While the technology in the background is quite complex, for end-users the personal assistant is a friendly, human-looking avatar on their screen. They can speak to the personal assistant using natural language (speech recognition).</p>

Appendix

Assistive technology^a

'Assistive technology is any product or service designed to enable independence for disabled and older people'

The setting is any public setting where the user is interacting with the technology and the user has a disability or is older.

Inclusion criteria

- Technology or services that enable independence in people with disabilities or elderly people.
- All settings except clinical.
- Devices to support hygiene (i.e. drying devices, 'carer dryer', shower chair).
- Self-management or devices to allow social cohesion for older people or people with disabilities.
- Population-based/major infrastructure where the technology or service is for people with disabilities/older people (e.g. tactile pavement surfaces).
- Technology/services that benefit people who care for people with disabilities/older people *[thereby giving indirect benefits to the person, i.e. delaying a move to a care home]*.

Exclusion criteria

- Clinical settings.
- Self-management of a chronic condition (e.g. diabetes).
- Assistive technology where the practitioner is using the technology (e.g. healthcare).
- Population-based/major infrastructure (such as street design, housing, transport) where the technology or service is not primarily for people with disabilities or older people *[even though they may benefit – scope too large]*.
- Medical device dwelling inside or under the skin that has been surgically inserted.

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Examples of assistive technology

- apps
- balance technology
- bathing adaptation
- brain stimulation
- communication aid
- communication therapy
- computer game
- computer therapy
- computerised CBT
- digital reasoning
- electrical stimulation
- electronic magnifiers
- environmental assessment
- exercise programme
- gaming environment
- hearing aid
- heel cast
- humanoid robot
- internet-based treatment
- iPad
- LEGO-based therapy
- mandibular devices
- mobile sensor
- neck collar
- night positioning equipment
- one-session therapy
- orthosis
- ostomy pouch
- rehabilitation device
- robot-assisted training
- self-management programme
- sensor integration therapy
- shared decision-making
- shower chair
- short messaging service (SMS)
- sociotechnical solutions
- standing frame
- step highlights
- support mattress
- symbol communication aid
- urinary catheter
- video feedback
- virtual reality environment