Impact Priorities for the NIHR

NIHR Newcastle Biomedical Research Centre Impact Showcase

21 November 2018

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Impact of the first ten years of NIHR

The NHS has benefited enormously from the National Institute for Health Research (NIHR) and its approach to clinical research in the past 10 years; its need for the NIHR will be even greater in the future.”

See Commentop1.2011

The National Institute for Health Research at 10 years

An impact synthesis

Summary report

RAND Europe and the Policy Institute at King's
Definition of impact - research councils

**Academic impact** – demonstrable contribution that excellent research makes in shifting understanding and advancing scientific methods, theory and application across and within disciplines

**Economic and societal impact** – demonstrable contribution that excellent research makes to society and the economy, and its benefits to individuals, organisations and/or nations

The impact of research be it academic, economic or social can include:

- **Instrumental**: influencing the development of policy, practice or service provision, shaping legislation, altering behaviour
- **Conceptual**: contributing to the understanding of policy issues, reframing debates
- **Capacity building**: though technical and personal skill development
I'm glad NIHR asks my views as a patient on research priorities.

Providing evidence of what doesn’t work is as valuable as the new stuff.

My NIHR fellowship has enabled me to combine academic training with having a family.

Working with the NIHR infrastructure enables my company to deliver trials to time and target.
NIHR impact – using the evidence

- **Accountability** - assure taxpayers (and Ministers on their behalf) that investing public funds in NIHR represents value for money.

- **Advocacy** – make the case for research e.g. demonstrate to clinicians, managers and others working across the health and care system that a research-enabled system produces better outcomes for patients and the public.

- **Analysis** – better understand the impact of our activities and our unique contribution in the health and care research ecosystem.

- **Allocation** – prioritise which projects, people and institutions are awarded funding.

- **Improvement** – embed a learning culture with a strong focus on continuous improvement.

https://www.rand.org/content/dam/rand/pubs/research_briefs/RB9700/RB9716/RAND_RB9716.pdf
Our mission is to **improve the health and wealth of the nation through research**. We do this by:

- Funding, supporting and delivering **high quality research** that benefits the NHS, public health and social care

- **Engaging and involving patients, carers and the public** in order to improve the reach, quality and impact of research

- Attracting, training and supporting the **best health and care researchers** to tackle complex health and care challenges of the future

- **Investing in world-class infrastructure and a skilled workforce** to accelerate translation of discoveries into improved treatments and services

- **Partnering with other public funders, charities and industry** to maximise the value of research to patients and the economy
Funding, supporting and delivering high quality research that benefits the NHS, public health and social care Outputs from NIHR Research Programmes: February 2018

Lab-grown tumours could help personalise drug treatment for cancer
23 February 2018
Researchers at the NIHR Royal Marsden Biomedical Research Centre have used lab-grown replicas of patients' tumours to test which drugs will be the best treatment for their cancer.
Read more

Schools alone cannot help to prevent childhood obesity, study finds
15 February 2018
School-based healthy lifestyle interventions alone are not effective in the fight against childhood obesity, NIHR-funded researchers have suggested.
Read more

Alzheimer's patient encourages others to sign up to take part in dementia research
06 February 2018
A retired pottery shop owner with early Alzheimer's disease has said research has given him a new hope for life.
Read more

After Francis: Research to strengthen organisational capacity to deliver compassionate care in the NHS
19 February 2018
Five years on from the Francis inquiry, five NIHR-funded studies looking at the delivery of compassionate care in the NHS are publishing their results.
Read more

NIHR study maps availability and access of primary health care services for homeless people in England
16 February 2018
A new NIHR study that maps primary health care services for people who are homeless in England finds significant variation in the type of service available, with some areas poorly covered.
Read more

Encouraging findings presented for potential new Sjögren's treatment
05 February 2018
The results of a Phase IIa clinical trial, run in conjunction with the NIHR Translational Research Collaboration in joint and related inflammatory diseases, have suggested a potential new antibody treatment for patients suffering from Sjögren's syndrome.
Read more
Outputs from NIHR Research Programmes: February 2018

Dementia care improved by just one hour of social interaction each week  
07 February 2018  
A large scale NIHR-funded trial shows that increasing the amount of social interaction for people with dementia living in care homes to just one hour a week improves quality of life and saves money.  
Read more

Antidepressants are more effective than placebo  
22 February 2018  
A major study comparing 21 commonly used antidepressants concludes that all are more effective than placebo for the short-term treatment of acute depression in adults, with effectiveness ranging from small to moderate for different drugs.  
Read more

Antibiotic resistance in children's E. coli is high when commonly prescribed antibiotics are used  
06 February 2018  
Research funded by the NIHR School for Primary Care Research warns that rising levels of drug-resistance in bacteria that cause childhood infections could render common antibiotics ineffective.  
Read more

Innovative digital therapy helping patients with paranoia  
13 February 2018  
A trial for SlowMo, the first digital therapy for paranoia, has been launched in Sussex following trials in London and Oxford.  
Read more

Alternatives to face-to-face GP consultations unlikely to deliver hoped-for benefits in practice  
30 January 2018  
The realities of implementing alternatives to face-to-face GP consultations, such as telephone, email, online and video consultations, mean that hoped-for reductions in GP workload and increases in available appointments for patients might not be realised, an NIHR-funded study has found.  
Read more

NIHR research identifies reasons why GPs are quitting the profession  
05 February 2018  
New NIHR-funded research has shed light on the reasons driving doctors out of General Practice, following earlier findings that around two out of every five GPs in the South West are planning to leave direct patient care in the next five years.  
Read more
**Imaging techniques can improve diagnosis of pancreatic cancer and avoid unnecessary surgery**

07 February 2018

For people with suspected pancreatic cancer, the addition of a specialist scan provides more accurate diagnosis and can better determine the stage of cancer, avoiding unnecessary surgery, finds research funded and published by NIHR.

Read more

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**Patients to control their own sedation during operations**

23 February 2018

Patients undergoing operations while awake will be able to control their own levels of anxiety, thanks to new research funded by the NIHR.

Read more

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**Arthritis drugs could halve the risk of Alzheimer's disease**

14 February 2018

New research suggests drugs used to treat rheumatoid arthritis could reduce the risk of dementia.

Read more
A revolutionary neck collar designed to ease pain and make everyday tasks much easier for people with MND is now available to patients in the NHS and across the world thanks to NIHR funding.

The Head Up collar, which is made from a material initially designed to line NASA space suits, offers personalised support to the small muscles in the neck, helping people with MND to eat, communicate, drive and carry out other day-to-day activities.

Funded by NIHR’s [Invention for Innovation (i4i) Programme](https://www.nihr.ac.uk/research-and-impact/supporting-neurodegenerative-diseases.htm), the Head Up collar was developed in an innovative five-year project by the University of Sheffield, Sheffield Hallam University and the [NIHR Devices for Dignity MedTech Co-operative](https://www.nihr.ac.uk/research-and-impact/supporting-neurodegenerative-diseases.htm), which is hosted by Sheffield Teaching Hospitals.

The collar was designed with the help of people with MND and has been trialled by over 100 patients – 80% of whom said the collar helped them and they wanted to carry on using it after the trial.

The collar, which was produced in collaboration with the Motor Neurone Disease Association, is now being used with suitable patients at 25 NHS Trusts.
Our changing relationship with patients and the public (Denegri)

Past and present

• Involvement, engagement and participation
• The individual
• Clinical research, clinical trials, clinical studies
• Process
• Centrally controlled and driven
• Partnership
• The committee room
• Patients, carers, the public
• National focus
• NIHR and ‘the few’

The future

• Co-production, co-creation,
• Mobilisation
• The community
• Public health, social care research
• Outcomes
• Citizen driven, Grassroots
• Collaboration
• Digital, tech, AI, social media
• Consumers
• Global movement – thinking ‘globally acting locally’
• Charities and industry

)
Pearse became interested in ophthalmology during his medical training and he secured a placement at John Hopkins researching the “bionic eye” project. In 2008 while at a conference he heard about the NIHR Clinical academic pathways and took the decision to move to the UK. He secured a NIHR Clinical Lectureship in 2010, after which he secured an NIHR Clinician Scientist award. His research focus is on imaging the eye, particularly using optical coherence tomography (OCT), and the use of artificial intelligence to analyse OCT images. Recently he has published an article in Nature reporting a collaboration between Moorfields Eye Hospital and Google DeepMind where AI can be used to analyse OCT images to triage retinal diseases.

“The NIHR are the reason why I came to the UK”
Invest in world-class infrastructure and a skilled delivery workforce to accelerate translation of discoveries into improved treatments and services.
NIHR Clinical Research Network: Increasing NHS Research Capacity

Number of new studies added to the NIHR CRN Portfolio

- **Non-Commercial**
- **Commercial**

![Bar chart showing the number of new studies added to the NIHR CRN Portfolio from 2010/11 to 2017/18.](chart.png)
Research-active English NHS Trusts have a lower mortality from acute admissions than less research-active NHS Trusts. This finding held true even when other factors such as medical staffing, nurse staffing, critical care beds, radiodiagnostic utilisation, operating theatres, and operational expenditure were taken into account. The mean reduction in mortality was 5%.
Partner with other public funders, charities and industry to maximise the value of research to patients and the economy.

UKPRP RESEARCH COMMUNITY
- Strong pool of relevant applications with clear engagement with implementers submitted
- Full applications for Consortia & Networks
- Consortia Development grants
- Diverse committee makes effective funding decisions
- Diverse and high quality research groups addressing public concerns & with potential for impact are funded across the UK
- Networks

PREVENTION RESEARCH LANDSCAPE
- Multiple sectors including academic, industry, local & central government, third/voluntary sector want & are able to engage in NCD prevention research
- Trans-disciplinary research groups have increased capacity (mixed teams, engaged users, improved methods, greater advocacy and translation) to deliver effective prevention research

RESEARCH FUNDING LANDSCAPE
- UKPRP funder partnerships are strong & function effectively. They provide a clear vision to the community, & have effective processes and governance arrangements

IMPLEMENTATION LANDSCAPE
- The implementation landscape (policy, industry, public etc.) is flexible & able to respond to new opportunities & partnerships

PRE-AWARD OUTCOMES
- Implementation agents have better understanding and access to the prevention research community

AWARD OUTCOMES
- Active, collaborative research partnerships deliver high quality, co-produced, novel, impactful research programmes
- Multi-disciplinary and active, collaborative research networks build self-sustaining and interlinked prevention research community
- A new research agenda sets out inter-disciplinary approaches to primary prevention of NCDs

POST-AWARD OUTCOMES
- Prevention research has increased visibility with policy makers & implementers
- Evidence on generalizable and scalable prevention policies and interventions to drive broad systems-level changes for the prevention of NCDs in the UK (e.g. technologies & products, policy changes, changes in public attitudes)
- New methodology for systems approaches to prevention research developed and adopted
- Researchers communicate findings which contribute to body of evidence

IMPACT
- Evidence based, large-scale and cost-effective solutions for prevention of NCDs are delivered at scale in UK
- Reduction in prevalence of NCDs in UK
- Decreased health inequalities, decreased health care spending, increased economic productivity

The UK research community work co-productively with a range of sectors to tackle complex problems in prevention research

Rebalancing of research budgets leads to increased investment in future prevention research

Enhanced cross-funder partnerships carry into future activities including stimulating activities in other ecosystems

UKPRP Impact Framework | Jan 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Industry Collaborative</th>
<th>Industry Contract</th>
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</thead>
<tbody>
<tr>
<td>2012/13</td>
<td>300 (8%)</td>
<td>465 (12%)</td>
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<tr>
<td>2013/14</td>
<td>418 (7%)</td>
<td>952 (16%)</td>
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<tr>
<td>2014/15</td>
<td>438 (7%)</td>
<td>1105 (17%)</td>
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<tr>
<td>2015/16</td>
<td>452 (7%)</td>
<td>1152 (17%)</td>
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<tr>
<td>2016/17</td>
<td>481 (7%)</td>
<td>1307 (19%)</td>
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<tr>
<td>2017/18</td>
<td>621 (8%)</td>
<td>1149 (15%)</td>
</tr>
</tbody>
</table>

% of studies against TOTAL no. of studies
BRC/U Funding Leveraged (2012-2018)

% of funding leveraged against TOTAL funding leveraged
NIHR Clinical Research Network - estimated economic impact in summary


Source: KPMG analysis
NIHR was the only funding agency surveyed which routinely did all of:
- Involved **patients and the public** in research
- Required **systematic reviews** before doing new research
- Provided access to **full protocols**
- Funded "**research on research**"

### Table 1 – Funding agencies used in the survey and samples of data from the project (further details available in S5 and S6)

<table>
<thead>
<tr>
<th>Funding agency</th>
<th>Country</th>
<th>Are patients and the public involved?</th>
<th>New research requires systematic reviews of existing evidence?</th>
<th>Public access to full protocols for completed or ongoing research?</th>
<th>Funding to undertake &quot;research on research&quot;?</th>
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</thead>
<tbody>
<tr>
<td>National Institute for Health Research (NIHR)</td>
<td>UK</td>
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<td>Medical Research Council (MRC)</td>
<td>UK</td>
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<tr>
<td>National Health and Medical Research Council (NHMRC)</td>
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<td>Canadian Institutes of Health Research (CIHR)</td>
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<tr>
<td>National Institutes of Health (NIH)</td>
<td>USA</td>
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<tr>
<td>Deutsche Forschungsgemeinschaft (German Research Foundation) (DFG)</td>
<td>Germany</td>
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<td>French Ministry of Health (FoH)</td>
<td>France</td>
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<tr>
<td>l’Agence Nationale de la Recherche (ANR)</td>
<td>France</td>
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<td>Nederlandse organisatie voor gezondheidsonderzoek en zorinnovatie (ZonMw)</td>
<td>Netherlands</td>
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<td>Danske Regioner (DR)</td>
<td>Denmark</td>
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<td>Regional Health Authorities in Norway (RHA)</td>
<td>Norway</td>
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</table>
Learning from other national and international funders

Wellcome Trust Success Framework

CSIRO’s Impact Framework

Alberta Innovates
Current context

Industrial Strategy

UKRI & ISCF

Brexit

SoS – early priorities

NHS long-term plan

Accelerated Access Collaborative

2.4% GDP target R&D investment
Economic return on investment health research

Continuing annual return for each £ invested by public or charity donor

- Cancer: 10 Monetised net health benefit (Pence), 17 General economic benefit (Pence)
- Cardiovascular: 9 Monetised net health benefit (Pence), 17 General economic benefit (Pence)
- Mental Health: 7 Monetised net health benefit (Pence), 17 General economic benefit (Pence)
- Musculoskeletal: 7 Monetised net health benefit (Pence), 17 General economic benefit (Pence)
NIHR Health Futures report - recurring themes

- **Transformation** in organisation and delivery of health and social care
- **Patient expectations and voice** are growing
- Increasing **health inequalities** driven by wider determinants
- Challenge of **lifestyle and environmental drivers** for public health needs – obesity and air pollution
- Growing burden of **mental ill-health** (young and old highlighted)
- **Demographic pressures** (ageing population with multi-morbidities)
- Improving maternal and child health & end-of-life care –**life course approach**
- Challenge of keeping pace with **advances in technology** and positive/ negative consequences of new personal digital devices
- **Global challenges** and changing patterns of disease - infectious disease – climate change and AMR

https://www.rand.org/pubs/research_reports/RR2147.html
NIHR impact priorities

- Responding to predictable demographic and disease trends, including ageing, multimorbidities and frailty
- Building **research capacity and capability in underserved areas of greatest need**, e.g. social care, public health, primary care and mental health
- Encouraging **applied health research activity to follow patient need** and attract the nation’s leading researchers
- Relationships with health and care system and patients, carers and public(s)
- Methodologies, platforms (big data, genomics, omics etc) and focus on interdisciplinarity
- Implementation of the **NIHR Training Strategy**, inc NIHR Academy
- **Equality, diversity and inclusivity** in the research workforce (inc team science), research participants and those who shape the research agenda (inc patients, carers and the public)
- **Maximise the benefit to LMICs** of our ODA funding portfolio by adding distinctive value to the funding ecosystem
- Making NHR easier to understand and navigate
How are you doing on your unspoken objectives?

My what?

I'm referring to the goals I have in my mind that I've never mentioned.

How are those going?

I'm totally nailing them.