



National Institute for
Health Research

NIHR i4i: Funding for Translation

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**Acting Head of Special Projects
NIHR Innovation Programmes**



National Institute for Health Research (NIHR)



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- Overview of NIHR
- Funding Programmes
- i4i Programme
 - What we fund
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- Q&A

NIHR Vision



National Institute for
Health Research

*To improve the health
and wealth of the nation
through research*



NIHR: Investing in Health

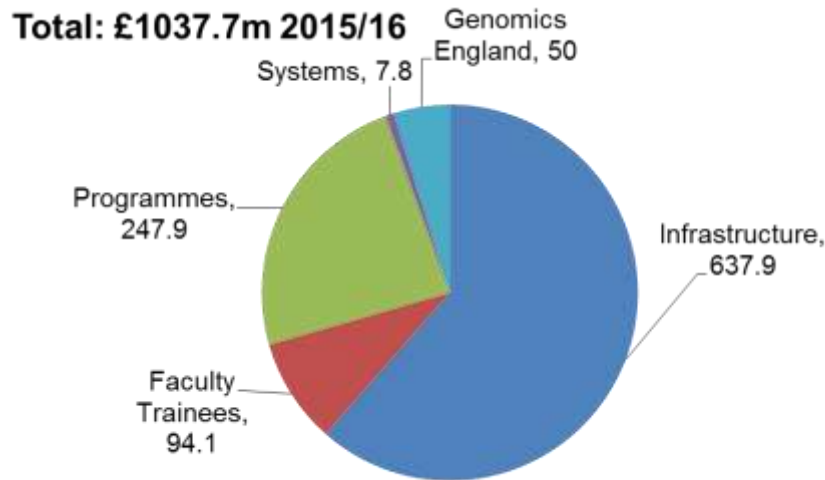
To improve the health and wealth of the nation through research

Big spend, deep impact

£1 billion on research each year improves NHS clinical practice

Nearly **£3.5 billion** of additional research investment attracted through our centres and facilities

Since 2008, total number of patients taking part in and benefiting from clinical trials has tripled from 1m to over 3m



Patient centred

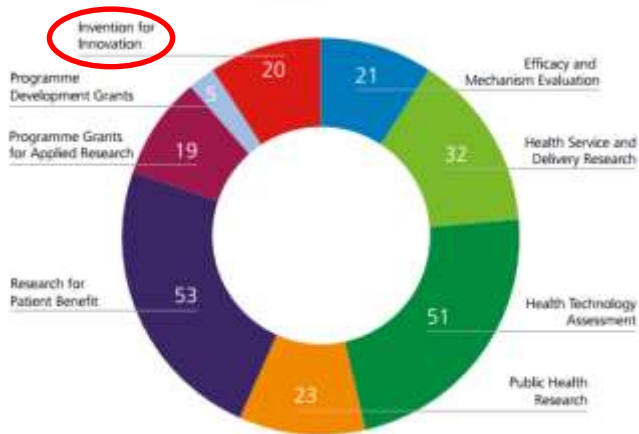
Over **600,000** took part in NIHR hosted studies in 2014 giving access to cutting edge treatments, and helping the NHS stay best in the world

Young Persons Advisory Group
75 young people in **five** cities shaping research design and innovating patient involvement

NIHR's national advisory group on public involvement in research, **INVOLVE**, is one of the few government funded programmes of its kind in the world

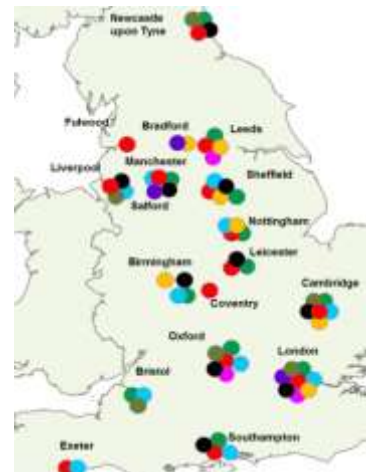
Support for Medtech SMEs

Our funding



Projects funded 2015/16

Collaborators and Experts across the NIHR

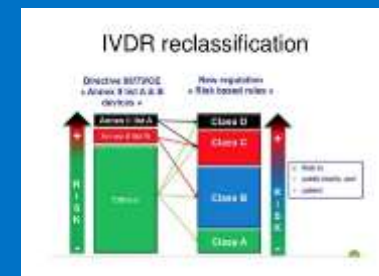


Our trial sites and support



15 Regions (AHSN)

In a rapidly changing environment



i4i: Who We Are, What We Do

A horizontal bar with a multi-colored gradient from green to blue.A grayscale background image of a computer keyboard, with several keys in the foreground slightly out of focus.

NIHR translational funding scheme

Led by Programme Director, Martin Hunt
Supported by a team of Programme Managers

We fund breakthrough technologies

- through collaborative R&D and clinical adoption
- by de-risking projects for follow-on investment
- focusing on innovative medtech solutions and patient benefit

How i4i bridges the Medtech 'Valley of Death'



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Basic research produces proof of concept data



Technology that is attractive to follow-on funders and investors for commercialisation



Five i4i highlights



Now x3 funding streams:
i4i Connect
i4i Product Development
i4i Challenge Fund

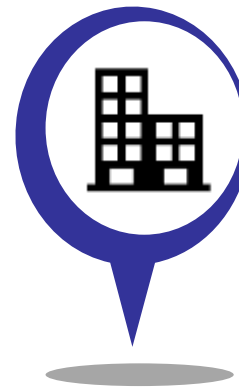


~ £107m
invested



>£105m
funding leveraged

150 projects
funded



>200
organisations

Applying to i4i

PDA Call 16

| | |
|------------------------|--------------------------|
| Call Launch | 25 April 2018 |
| Stage 1 deadline | 06 June 2018 |
| Invitations to stage 2 | 01 August 2018 |
| Stage 2 deadline | 26 September 2018 |
| Panel meeting | w/c 26 November 2018 |
| Funding decision | End of December earliest |

Mental Health Challenge 2018

| | |
|------------------------|--------------------------|
| Call Launch | 01 Feb 2018 |
| Stage 1 deadline | 04 April 2018 |
| Invitations to stage 2 | 23 May 2018 |
| Impact Workshop | TBC |
| Stage 2 deadline | 26 September 2018 |
| Panel meeting | w/c 26 November 2018 |
| Funding decision | End of December earliest |

Evidence of:

Well articulated clinical need
and patient benefit

Detailed and clear project plan

Team skills/experience adequate

Good business case

IP and commercialisation strategy

Justifiable costs – cost/benefit

Stage
1

Stage
2

Ratification

Award

Health Economics:

Essential

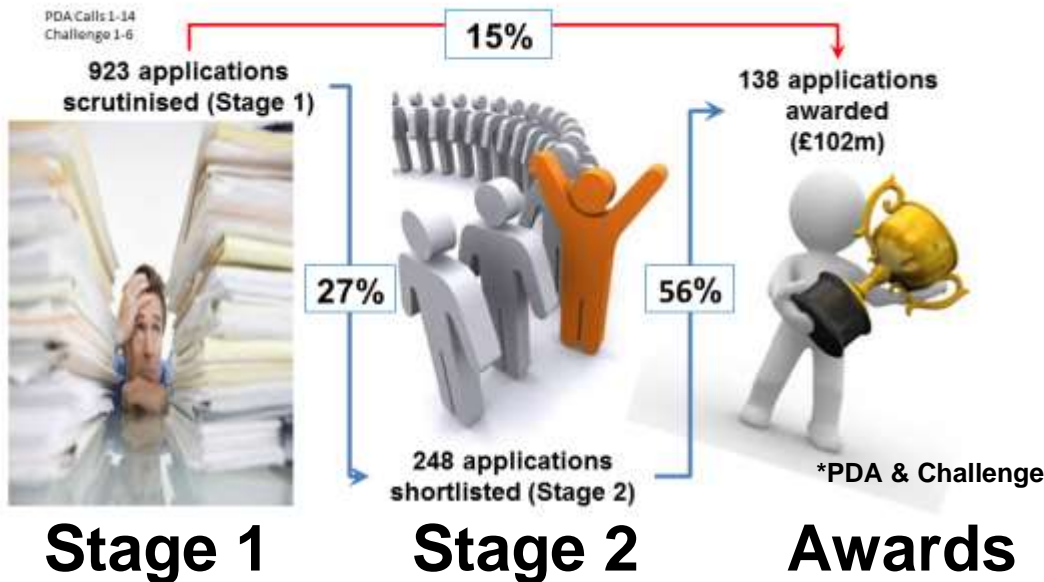
Care pathway based

Developed throughout the project

NHS adoption strategy/Barriers identified

Steps to i4i success

Two stage process



“Pitch to our panel”

You need to know your:

Executive summary

Business proposition

Market

Business strategy

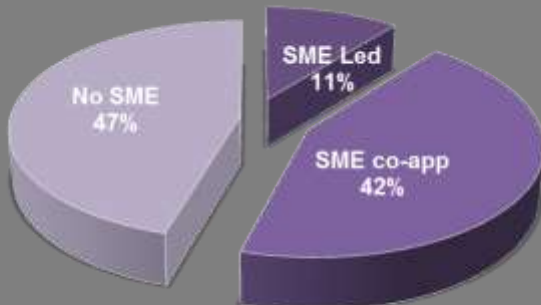
Marketing and sales plans

Team

Product development

Regulatory pathway

Financial forecast



SMEs involved in over 50% of i4i projects

Risk mitigation pathway



Due Diligence

- Science scrutiny
- IP & Commercial scrutiny
- Financial scrutiny
- Legal scrutiny



Impact

Periodic catch up
on advancement and
generated impact

Contracting

Monitoring

**Post-project
monitoring**



Enabling Delivery

- Progress and financial reports
- Milestone-based payments
- Site visits
- Research Steering Group
- Intellectual Property Management Group

SMARTChip

- an IVD blood test for stroke

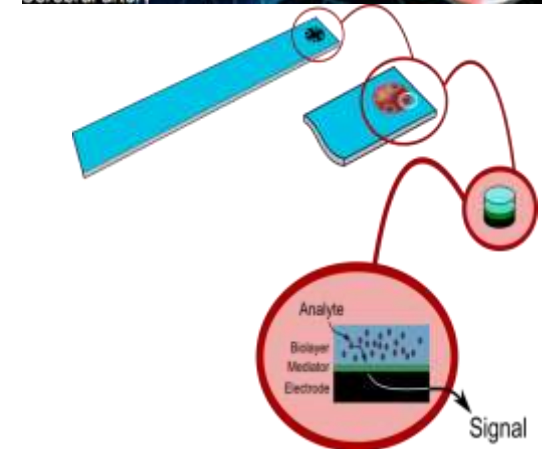
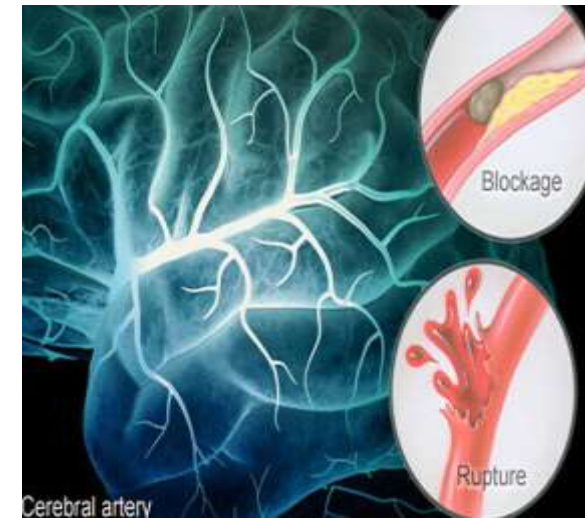
**Professors Nicholas Dale (Sarissa/ UoW),
Chris Imray (UHCW) & Christine Roffe (UHNM)**

I4i funding (£575k over 3 years):

- Develop SMARTChip - finger prick PoC IVD blood test
- Multi-centre trial showed SMARTChip accurately discriminates between true strokes and mimics potentially saving hyper acute stroke units £25m per annum (auc 0.83)
- Leveraged additional funding for Sarissa
 - £2m SBRI (stage II) contract to develop & test SMARTChip for paramedic use
 - £150k KTP to develop automated production line
- New diagnostic applications being developed (TBI, foetal hypoxia, PADS epilepsy)



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COPD monitoring sensor

Professor Monica Spiteri UH North Midlands

- University Hospital of North Staffordshire, £560k for 33 months
- Non-invasive, saliva-based biosensor
- Predicted exacerbations in 60 patient study
- Secured a further £1.2M from i4i

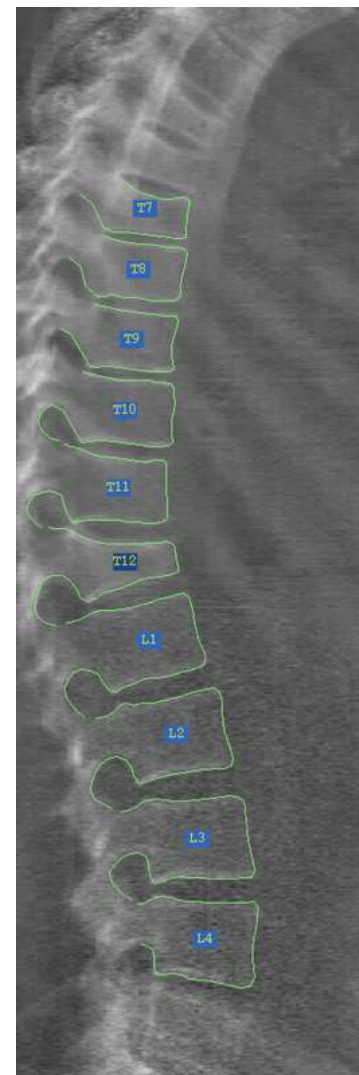
‘I was very impressed by the support i4i gave us...they were very positive and gave good suggestions where it was required.’

Source: RAND



Early detection of osteoporosis

- Osteoporosis related fractures are estimated to affect 50% of women and 20% of men over the age of 50
- Prof Tim Cootes at the University of Manchester was awarded £867k in 2016 to continue development of software that will automatically identify early signs of osteoarthritis in radiographic scans of vertebrae before they produce clinical symptoms
- Early identification will allow preventative treatments to be started avoiding longer term, more expensive therapy to reduce symptoms
- Commercial development by:



AI for Lung Cancer Detection

IDEAL: Artificial Intelligence and Big Data for Early Lung Cancer Diagnosis (Prof F Gleeson, Oxford University Hospitals NHSFT)

- Aim is a novel CE marked and clinically validated decision support software tool to significantly increase accuracy, reduce cost, patient uncertainty and exposure to ionising radiation in identification of pulmonary nodules



NE Diagnostics from i4i

QuantuMDx

i4i:
£75k in 2009 followed by £1.1M in 2011

Recently raised £12M



UCL (**Prof Rachel McKendry**) and OJ-Bio (**Dale Athey**) Ltd £870k in 2012
Now transferred to Japan Radio Co Ltd to develop





Patients



Funding



Expertise

supportmystudy@nih.ac.uk



Training



Study Support