NIHR i4i: Funding for Translation

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Acting Head of Special Projects
NIHR Innovation Programmes
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NIHR Vision

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

- **Total: £1,037.7m 2015/16**
  - Programmes, 247.9
  - Faculty Trainees, 94.1
  - Infrastructure, 637.9
  - Genomics England, 50
  - Systems, 7.8

- **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

- **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
  - 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

£

Collaborators and Experts across the NIHR

Projects funded 2015/16

Our trial sites and support

15 Regions (AHSN)

In a rapidly changing environment
i4i: Who We Are, What We Do

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’

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

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<tr>
<th>Event</th>
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<tr>
<td>Call Launch</td>
<td>25 April 2018</td>
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<tr>
<td>Stage 1 deadline</td>
<td>06 June 2018</td>
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<tr>
<td>Invitations to stage 2</td>
<td>01 August 2018</td>
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<tr>
<td>Stage 2 deadline</td>
<td>26 September 2018</td>
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<td>Panel meeting</td>
<td>w/c 26 November 2018</td>
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<td>Funding decision</td>
<td>End of December earliest</td>
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Mental Health Challenge 2018

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<tr>
<td>Call Launch</td>
<td>01 Feb 2018</td>
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<tr>
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<td>04 April 2018</td>
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<td>Invitations to stage 2</td>
<td>23 May 2018</td>
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<tr>
<td>Impact Workshop</td>
<td>TBC</td>
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<td>Stage 2 deadline</td>
<td>26 September 2018</td>
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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

Health Economics:
- Essential
- Care pathway based
- Developed throughout the project
- NHS adoption strategy/Barriers identified
Steps to i4i success

Two stage process

Stage 1
- 923 applications scrutinised (Stage 1)
- 27%

Stage 2
- 248 applications shortlisted (Stage 2)
- 15%

Awards
- 138 applications awarded (£102m)
- 56%

SMEs involved in over 50% of i4i projects

“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
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 (UHNMM)

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)
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

BBC News 2nd Jan 2018
NE Diagnostics from i4i

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

Training

Study Support

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