i4i – Invention for Innovation Programme

Dr Ruth Nebauer

Innovation Programmes
Central Commissioning Facility
Who we are & what we do

• NIHR translational funding scheme
• Support collaborative R&D and clinical adoption
• Innovative healthcare technologies
  – Medical devices
  – Active implantable devices
  – In vitro diagnostics
• De-risk projects for follow-on investment
• Led by Programme Director, Martin Hunt
• Supported by a team of Programme Managers
i4i in the NIHR

National Institute for Health Research

NIHR structure

February 2015

LEGEND
NIHR Coordinating Centres
Partnership Initiatives

NIHR Coordinating Centres
Clinical Research Network Coordinating Centre (CRNC)†
Experimental Cancer Medicine Centre (ECMC)†
MRC/NHRI Translational Research Centre (MRC/TRC)
Biorepository
Central Commissioning Facility (CCF)
Biomedical Research Centres (BRCs) (x11)
Biomedical Research Units (BRUs) (x8)
Dementia Translational Research Collaboration (DTRC)
Rare Diseases Translational Research Collaboration (RDTRC)
Patient Safety Translational Research Centres (PSTRCs) (x4)
Healthcare Technology Co-ordinating Facility (HTCF) (x4)
Diagnostics Evidence Co-operative (DEC) (x4)
Collaboration for Leadership in Applied Health Research and Care (CLAHRC) (x3)
Office for Clinical Research Facilities (OCRF)†
Translational Research Partnerships (TRPs) (x4)

Universities
NHS Trusts
Patients and Public

Research Information
Research Management

Performance Transparency and Accountability
Performance Improvement Support
NIHR Research Support Services
Research Partnerships and Good HR Practice Advisors
Coordinated System for Jointing NHS Promotion (SNHCP)

Innovative Academic Training (IAT) Programme
Integrated Clinical Academic (ICA) Programmes†
Knowledge Mobilisation Research Fellowships (KMRFs)
Research Professors (RP) Infrastructure Training Forum

i4i – Invention for Innovation
i4i in the funding landscape

The central role of NIHR research in the innovation pathway

Invention
- Medical Research Council
  - Basic research
  - Development Pathway Funding
  - Efficacy and Mechanism Evaluation
  - Innovation for Innovation
- Biomedical Research Centres
- Biomedical Research Units
- Experimental Cancer Medicine Centres
- Clinical Research Facilities
- Patient Safety Translational Research Centres
- National Institute for Health Research
  - Health Protection Research Units
  - Horizon Scanning Centre
  - Blood and Transfusion Research Units
  - Research schools
  - Research for Patient Benefit
  - Public Health Research
  - Programme Grants for Applied Research
  - Health Sciences and Delivery Research
  - Health Technology Assessment
  - National Institute for Health and Care Excellence
    - NHS evidence
    - Academic Health Science Networks
    - NHS England
    - Providers of NHS services
  - NHS supply chain
  - Centre for surgical reconstruction and minimoltery
  - Collaborations for leadership in applied health research and care
  - Centre for evidence and dissemination, Cochrane, technology assessment, NICE

Evaluation
- Efficacy and Mechanism Evaluation
- Diagnostic Evidence Cooperatives

Adoption
- Adoption
- Diffusion

This pathway covers the full range of interventions - pharmaceuticals, biologicals, biotechnologies, procedures, therapies, and practices - for the full range of health and health care delivery (prevention, detection, diagnosis, prognosis, treatment, care).

i4i – Invention for Innovation
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

i4i – Invention for Innovation
i4i funds any area of clinical need

- Blood
- Cancer
- Cardiovascular
- Congenital
- Ear
- Eye
- Generic
- Infection
- Injuries
- Mental Health
- Musculoskeletal
- Oral & Gastro
- Other
- Reproduction
- Respiratory
- Skin
- Stroke
- Renal
- Neurological
- Oral & Gastro
- Other
- Reproduction
- Respiratory
- Skin
- Stroke
- Reproduction
- Respiratory
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i4i funds projects with lead organisations across England

- HEI: 48
- NHS: 19
- SME: 11
Facts & figures

- **2 funding streams**
- **36 months**
- **78 active projects**
- **£3.25M largest award**
- **£77M total spend**

- i4i Product Development Awards ([http://www.nihr.ac.uk/funding/i4i-product-development-awards.htm](http://www.nihr.ac.uk/funding/i4i-product-development-awards.htm))
- i4i Challenge Awards ([http://www.nihr.ac.uk/funding/i4i-challenge-awards.htm](http://www.nihr.ac.uk/funding/i4i-challenge-awards.htm))
Why apply to i4i?

- Dedicated medtech funding programme
- Uncapped funding amount
- Available source of early funding for SMEs
- Milestone-based awards to de-risk
- Commercially oriented panel supported by peer review
- Guidance and advice through RSG/IPMG
- Favourable independent review by RAND¹

¹ ‘The NIHR Invention for Innovation (i4i) programme. A review of progress and contributions to innovation in healthcare technologies’
RAND review of i4i

- i4i rare funder of high risk early innovation
- Funding process helps proposal improvement
- Willing to support not only usual suspects
- Open to diverse themes and disease areas
- Adaptable and responsive funding source
- Less bureaucracy than other funders
- Valuable support from i4i team
- Prestige of i4i award opens up doors

‘When we seek advice from NHS stakeholders....they are more willing to help if you have an NIHR award.’

‘The i4i team was instrumental in raising the visibility and the overall impact of the work.’

‘...bridging the valley of death’
Funding process

Stage 1
- Preliminary scrutiny

Stage 2
- Peer and lay review
- Panel assessment

Hit the deadline!

i4i – Invention for Innovation
A successful application

- Proof-of-concept
- Clinical need
- Innovation
- Project plan
- Project team
- IP & commercial strategy
- Patient and public involvement
- NHS adoption
- Value for money

i4i – Invention for Innovation
Fast DNA testing platform

- QuantuMDx Group Ltd, £1.1M for 3 years
- Pre-alpha prototype developed
- Leveraged EU (€5.2M) and Angel ($8.42M) funding
- Expected product launch in Q3 2016
- Robust nanowire sensor and new sequencing chemistry
- Result in 15min, significant cost reduction
- Global market for platform £100bn
Retinal implant for blindness

- Oxford University, £0.5M for 3 years
- Clinical trial to test retinal implants in patients who have become blind
- Implants will be given to six patients
- Two year follow up period to review the performance of the implant
- One of the patients (Rhian Lewis) appeared on BBC‘s Trust Me I’m a Doctor programme in January 2016
Upcoming calls

• 12th Product Development Awards call
  – Opens 6 April 2016
  – Stage 1 deadline 1 June 2016
  – Shortlisting mid-July
  – Stage 2 deadline 14 September 2016
  – Panel meetings in mid-November

• 13th Product Development Awards call & 7th Challenge Awards call opening in autumn
Thank you

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