SBRI HEALTHCARE

SBRI Healthcare

The AHSN Network

NHS England

Agenda

09.00	**Welcome and introduction** Mike Kenny, Associate Commercial Director, Innovation Agency
09.10	**SBRI opportunity** Karen Livingstone, National Director, SBRI Healthcare
09.20	**A focus on surgery** Iain Hennessey ,Clinical Director of Innovation at Alder Hey
09.50	**A focus on mental health** Dr Simon Lewis, Assistant Clinical Lead/Clinical Psychologist, Alder Hey Children's NHS Foundation Trust
10.20	**SBRI Alumni** John Hopkins
10.30	**Application and assessment process** Karen Livingstone, National Director, SBRI Healthcare
10.45	**Q&A and Networking**
11.00	**Close**

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Mike Kenny, Associate Commercial Director,

Innovation Agency

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AHSNs: Spreading innovation, improving health, generating economic growth

NHS

Local Authorities

European Union
European Regional Development Fund

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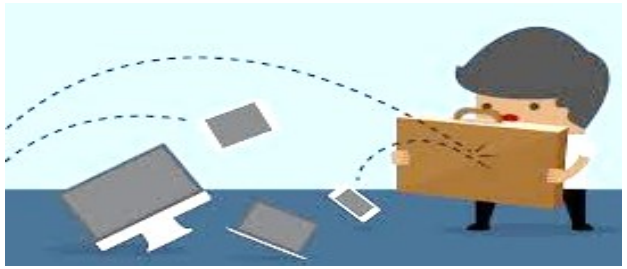
AHSNs: Spreading innovation, improving health, generating economic growth



SPREAD

health = wealth
wealth = health

European Union
European Regional Development Fund

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NHS

Local Authorities

SPREAD

health = wealth
wealth = health

European Union
European Regional Development Fund

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NWC - 9 Companies >£7mill investment

Med eTraX

BioSensor Array

cadscan

3D printed orthotics: Imprints

VeraMedico

DigiCreDis

Digital Creativity in Disability

sbrihealthcare.co.uk

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NHS England

AHSN Commercial Support

SBRI HEALTHCARE

The AHSN Network

15 Academic Health Science Networks (AHSNs) across England.

Find out more about AHSNs, and how to contact your local network at www.ahsnnetwork.com

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SBRI Healthcare

Karen Livingstone, National Director SBRI Healthcare

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SBRI Key features

SBRI Government challenges. Ideas from business. Innovative solutions.

SBRI is a pan-government, structured process enabling the Public Sector to engage with innovative suppliers:

✓Helping the Public Sector address challenges
- Using innovation to achieve a step change

✓Accelerating technology commercialisation
- Providing a route to market

✓Support and the development of Innovative companies
- Providing a lead customer/R&D partner
- Providing funding and credibility for fund raising

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SBRI Key features

- ✓ 100% funded R&D
- ✓ Operate under procurement rules rather than state aid rules
- ✓ UK implementation of EU Pre-Commercial Procurement
- ✓ Deliverable based rather than hours worked or costs incurred

- Contract with Prime Supplier
  - ✓ Who may choose to sub contract but remains accountable
- IP rests with Supplier
  - ✓ Certain usage rights with Public Sector – Companies encouraged to exploit IP
- Light touch Reporting & payments quarterly & up front

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SBRI Government challenges. Ideas from business. Innovative solutions.

Things to Note

- Any size of business is eligible
- Other organisations are eligible as long as the route to market is demonstrated
- All contract values quoted **INCLUDE** VAT
- Applications assessed on Fair Market Value
- Contract terms are non-negotiable
- Single applicant (partners shown as sub contractors)
- Applicants must fully complete the application form

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SBRI Government challenges. Ideas from business. Innovative solutions.

Eligible costs (all to include VAT)

- Labour costs broken down by individual
- Material Costs (inc consumables specific to the project)
- Capital Equipment Costs
- Sub-contract costs
- Travel and subsistence
- Other costs specifically attributed to the project
- Indirect Costs:
  - General office and basic laboratory consumables
  - Library services/learning resources
  - Typing/secretarial
  - Finance, personnel, public relations and departmental services
  - Central and distributed computing
  - Cost of capital employed
  - Overheads

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SBRI Government challenges. Ideas from business. Innovative solutions.

www.innovateuk.org/sbri

website contains details of all SBRI competitions

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SBRI HEALTHCARE

SBRI Healthcare

Launch Autumn Competition 2017

Mental Health

Surgery

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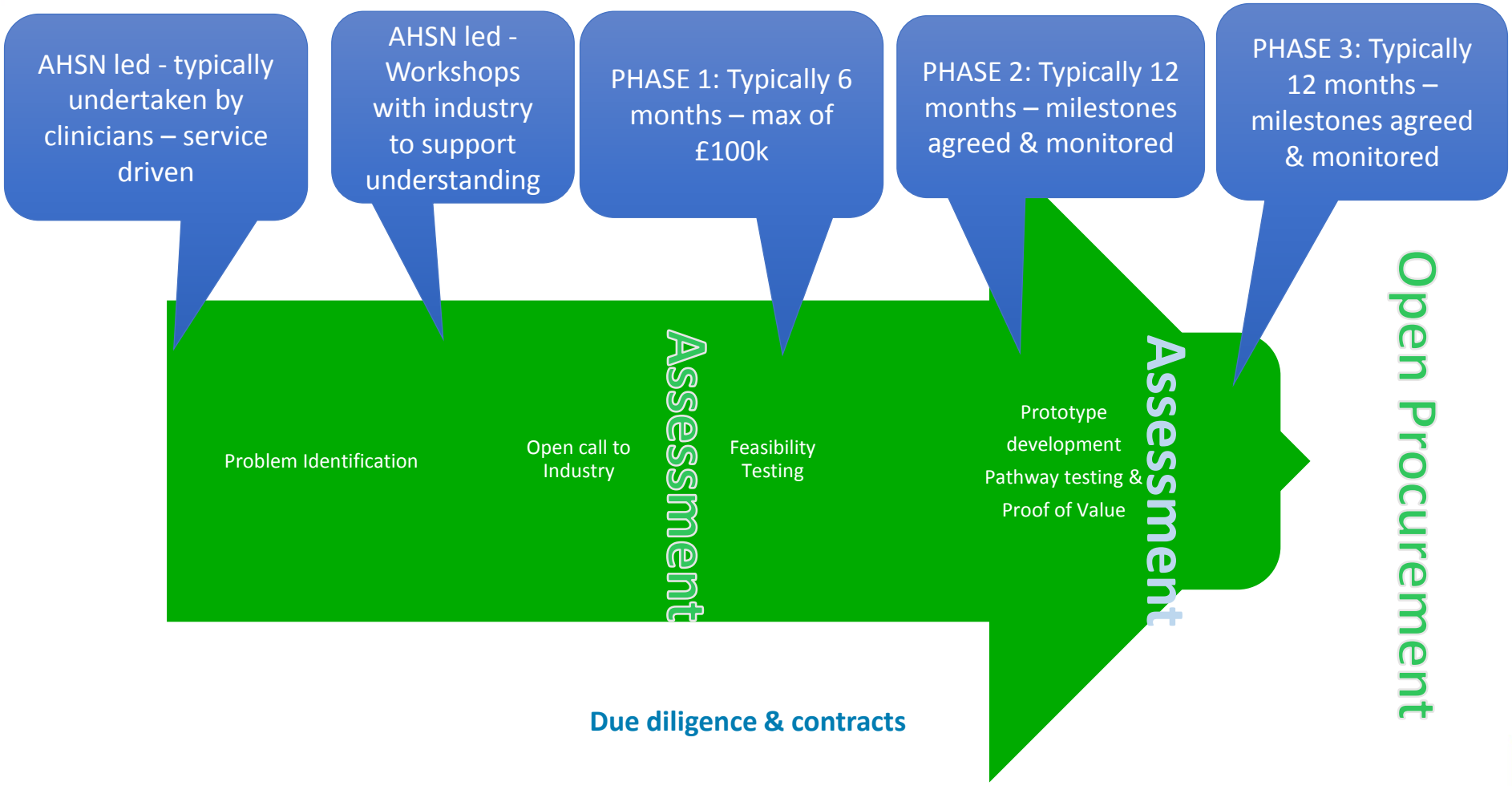
SBRI Process



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New Competition October 2017

Competition launch:	18th October 2017
Closing Date:	**Noon 29th November**
Briefing Events:	**Bristol 24th October**
	Nottingham 31st October
	Liverpool 3rd November
Assessments:	December/January 2017/18
Interview panels:	January 2018
Contracts awarded:	March 2018

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How do we add value?

OUR YEAR IN NUMBERS

£10.9m

39 Phase 1 contracts awarded with a total value of **£3.12m**

12 Phase 2 contracts awarded with a total value of **£7.75m**

8 new clinically-led competitions where NHS needs have been articulated for business to respond to

433

applications from industry assessed and supported or feedback given

FIVE YEARS OF DELIVERY

£69m

£69m total funds awarded

153 Phase 1

71 Phase 2

8 Phase 3

135

135 patents, copyrights, trademarks and scientific publications applied for or awarded

382 finalised agreements with UK and foreign companies

382

18

18 companies exporting their products to international markets

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Benefit for patients

- 704k patients impacted to date
- Potential to impact 59.5m
- Reduced harm evidenced.
- Reduced length of stay and no. of GP appointments
- Improved PROMs reporting – from <2% to >40%

"I'm no longer worried about losing my driving licence, no longer worried about losing my house or my job. My last eye check up at the hospital confirmed that for the first time in over two years, BOTH my retinas are stable once again…with no signs of any small bleeds at all"
(Polyphotnix patient)

Benefit for the NHS and wider health system

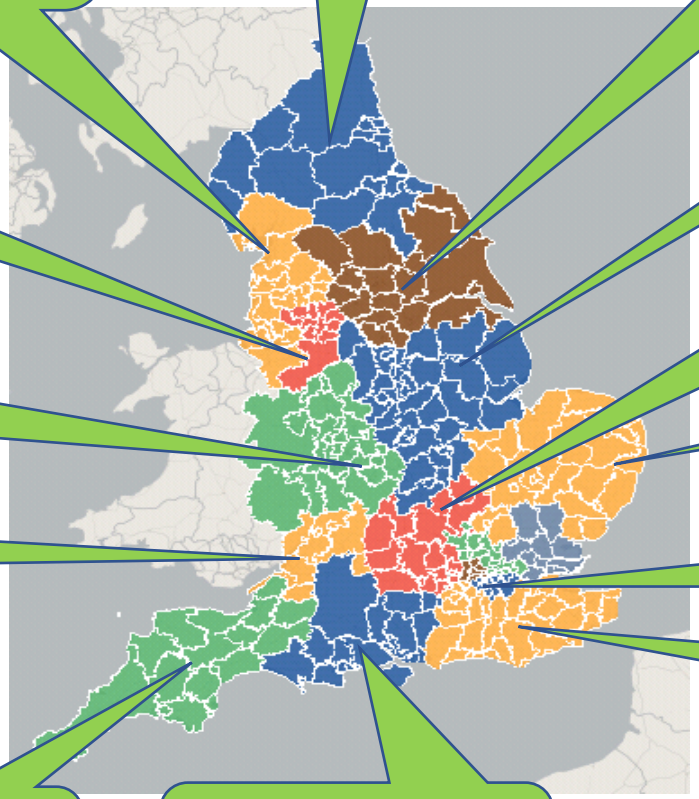
- £17.8m cash releasing savings secured to the NHS and social care to date
- Estimated cumulative future savings to the NHS expected to be of the order of £300- £440m in five years (2022), rising to between £1,100m - £1,800m in 10 years
- 135 IP applications: Five NICE approvals submitted
- 778 different NHS/care settings involved to date

Benefit for business and the economy

- £140m private investment secured by SBRI Healthcare backed companies
- 788 jobs created or safeguarded with £47m economic impact
- 50 products on the market and available to purchase – 18 companies are exporting & 3 have secured sales in excess of £500k
- Companies have been created and have only survived as a consequence of SBRI funding

HORIZON 2020
The EU Framework Programme for Research and Innovation

AHSN/SBRI companies



Scotland & N Ireland
Radisens, Edixomed,

NW Coast
Veraz, Cardiocity

North East & North Cumbria
Polyphotonix Ltd

Yorks & Humber
Halliday James Ltd

East Midlands
Monica Healthcare Ltd, Astrimmune Ltd

Greater Manchester
- Sky Med, & Rapid Rhythm

Oxford -
Fuel 3D, Oxford Biosignals, Message Dynamics

Eastern -
Aseptika, Bespak, TwistDX

West Midlands
SensST Systems, Just Checking Ltd

S.London, Imperial, UCLP
ABMS, Therakind, uMotif

West of England
SentiProfiling, My mHealth, HandAxe CIC

Kent, Surrey & Sussex
Anaxsys, InMezzo

South West
Frazer Nash

Wessex
CreoMedical, Morgan Automation

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Iain Hennessey, Clinical Director of Innovation at Alder Hey

A focus on Surgery

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Technology in Surgery

SBRI Healthcare NHS England competition for development contracts

October 2017


Why?


BETTER
FASTER
CHEAPER

The Challenges

Category 1: Preoperative Surgical Simulation Technologies

What if surgeons could be better informed through artificial intelligence, and data analytics and be able to practice complex surgery in advance?

What if detailed anatomical models (physical or virtual) could be readily available before surgery?

What if data analytics and AI could better predict outcomes of complex surgery?

What if each patient could have a virtual double that could be operated on in a simulation?

What if 3D printed replicas of organs, bones, tissues, tumours and blood vessels could be made widely available to surgeons?

What if models could enable surgeons to visualise the detail they normally only see once operating on a patient?

What if AI could be used to inform pre-operative planning and predict outcomes?

What if existing imaging and information could be used to virtually engineer a patient?

The Challenges

Category 2: Technologies to assist with surgical procedures

What if we could use technologies to enhance surgical performance, reduce variation in outcomes and reduce costs?

What if technology could enhance clinical decision making during surgery?

What if robots could carry out parts of surgical procedures?

What if technology could reduce the cost of surgical procedures?

What if tissues could be tested in real time during surgery?

What if surgical margins could be predicted in real time?

What if light sources were nearer the site of surgery e.g. directly from instruments?

What if pressure sights could be monitiored and adjusted during surgery?

What if waste generated in theatres could be automatically sorted?

What if frugal design methods could be used to reduce costs for the NHS?

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Dr Simon Lewis, Assistant Clinical Lead/Clinical Psychologist, Alder Hey Children's NHS Foundation Trust

A focus on Mental Health

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Technology & Mental Health

Dr Simon Lewis, Clinical Psychologist

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Mental health is…

"not simply the absence of disorder but a state of wellbeing in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community."

WHO (2010)

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Positive mental health is…

- Characterised by:
  - A clear sense of identity & self worth
  - The ability to learn & play
  - The ability to feel, express and manage a range of positive and negative emotions
  - The ability to form and maintain good relationships with others
  - The ability to cope with and manage change and uncertainty

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Three children in every classroom has a diagnosable mental health disorder

and that's just the ones that reach diagnostic criteria

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FRESH
How you feelin'?
Helping young minds find a better place
camhs

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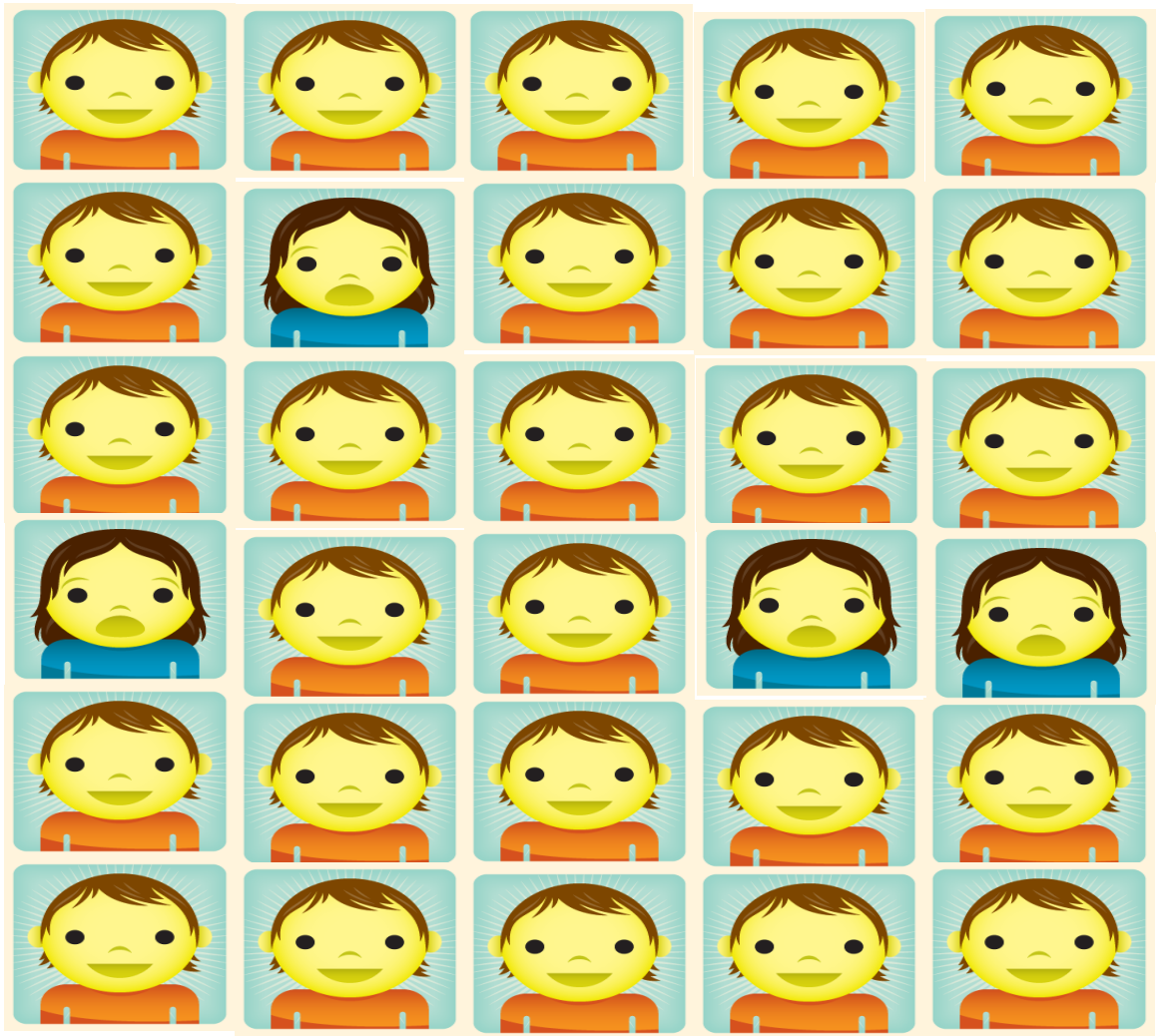

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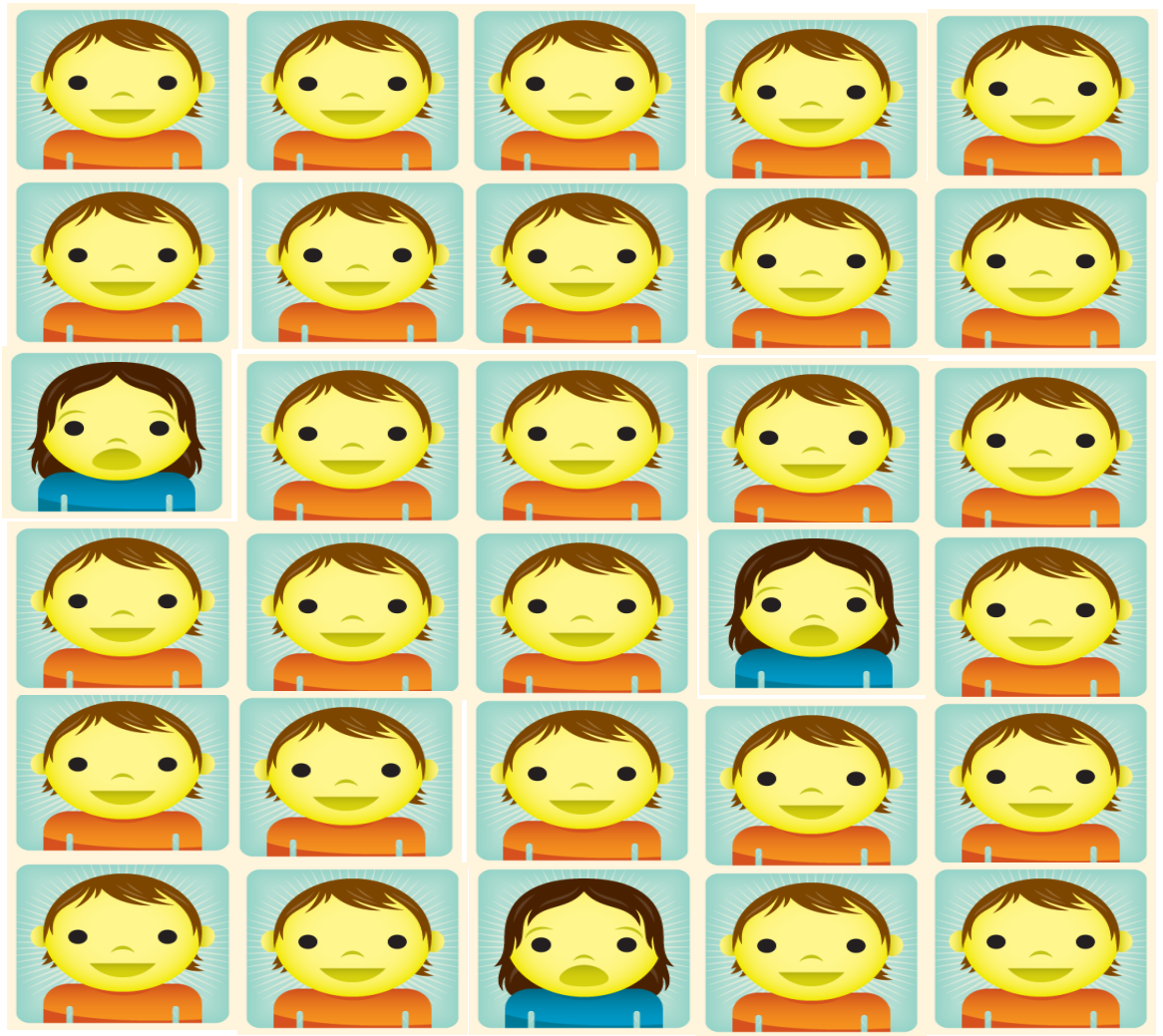

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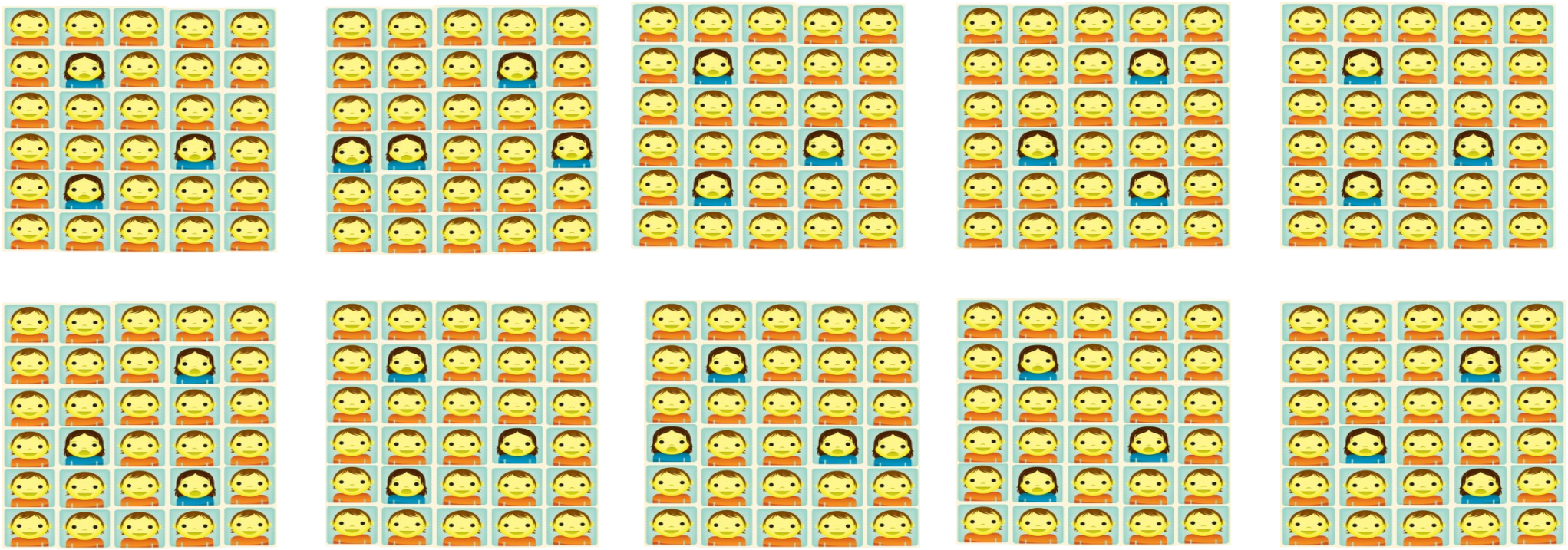

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camhs

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One in five young adults show signs of an **eating disorder**

And mortality rates are high when it comes to anorexia

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wikiHow

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One in 12 self harm

For release? For self punishment? To cope? To communicate? To make emotional pain 'real'? To feel?

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The Ultimate Goal

An Emotionally Healthy Population

and

Accessible Responsive Effective Timely

Mental Health Services

(that are affordable to the NHS)

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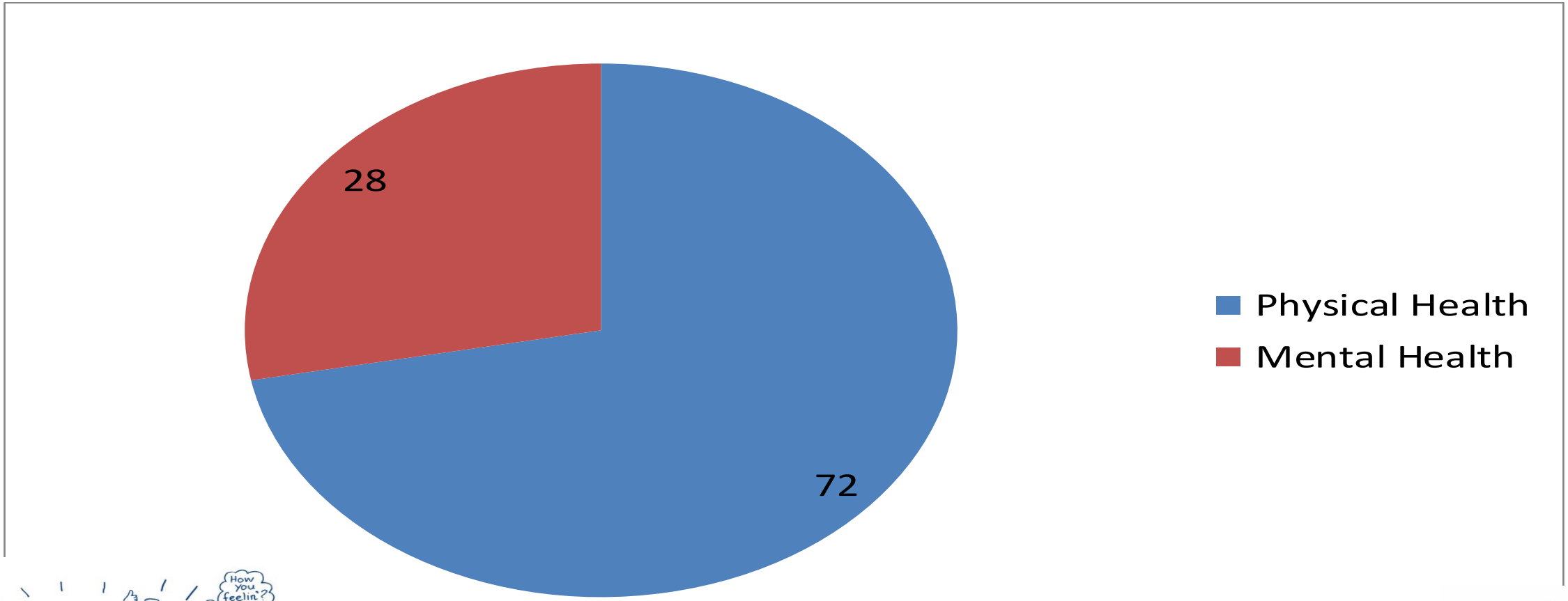
Why Tech for Mental Health?

- Mental health problems affect EVERYONE
- Huge economic cost to UK - £70bn per year
- Greatest cause of health related disability in UK
- 70 million working days lost each year
- Subjective clinical assessment & a medical model dominates practice
- Lack of historical engagement with SMEs & Tech sector
- High unmet need with little technological innovation

- 75% of people with mental health problems fail to receive any treatment at all
- 60% of adults referred to IAPT services receive no treatment
- Whilst 10% of British 5-15 year olds have a diagnosable mental health condition only 25% of these receive treatment
- 75%+ of adults who access mental health services had a diagnosable disorder in prior to the age of 18

‘Disease’ Burden



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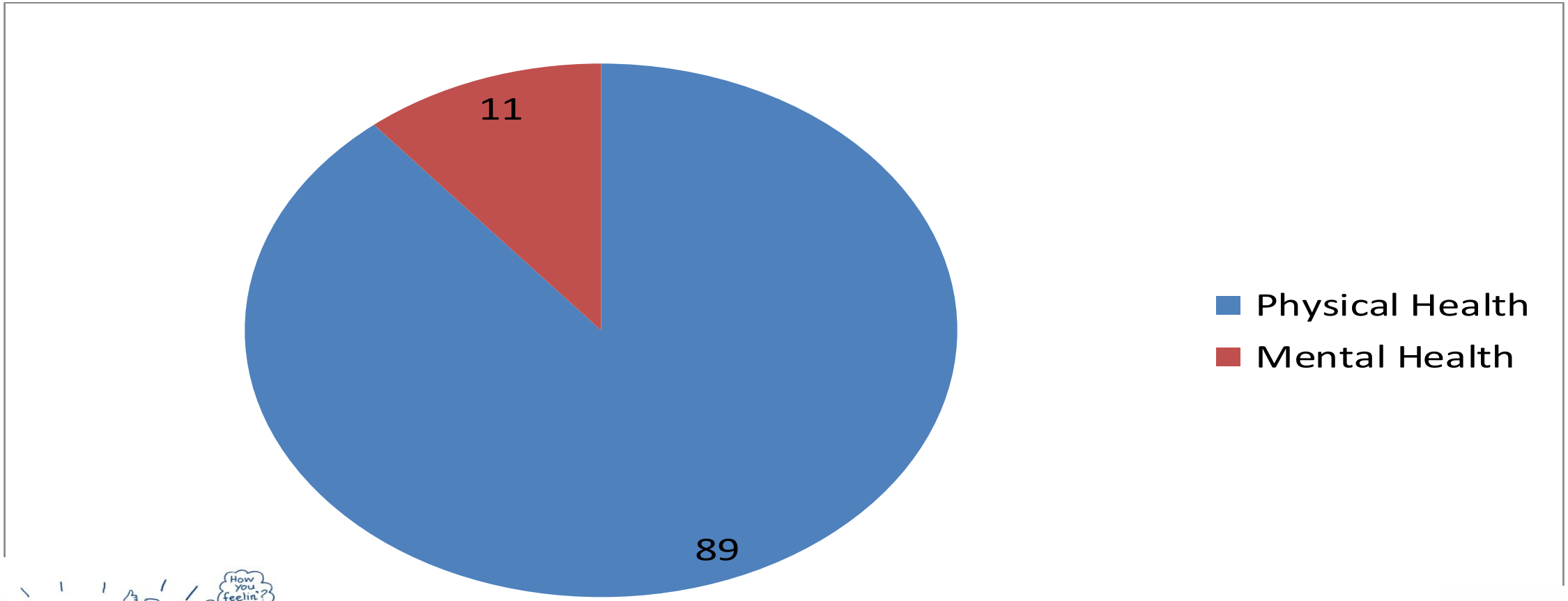
NHS Budgets



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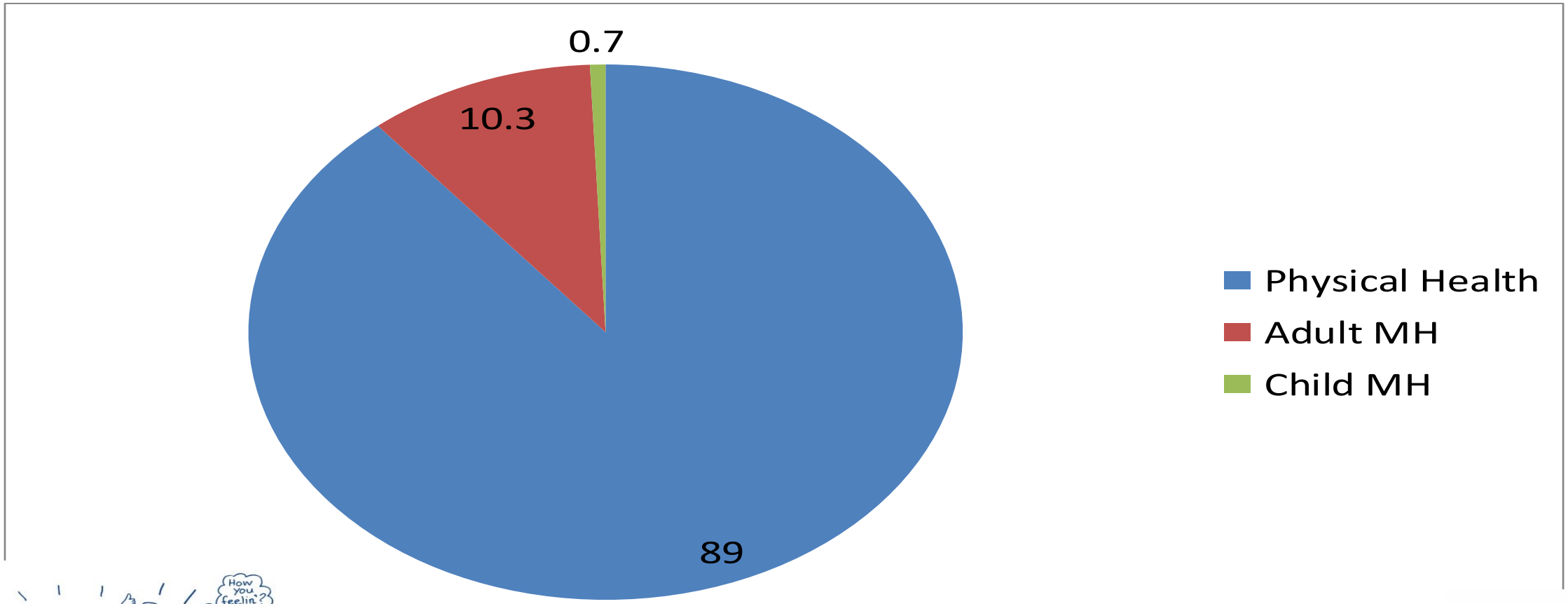
NHS Budgets



Why now?

- £30bn NHS funding gap by 2020 requires transformational change
- Treatment gaps require disruptive technological solutions
- Demand for flexible, person-centred care: precision medicine and self-management
- Harness advances in computer science and bio-engineering, AI and machine learning
- Rapid growth in smart technologies and ubiquitous computing
- The UK is (somewhat) ready for digital mental health

Change is happening..

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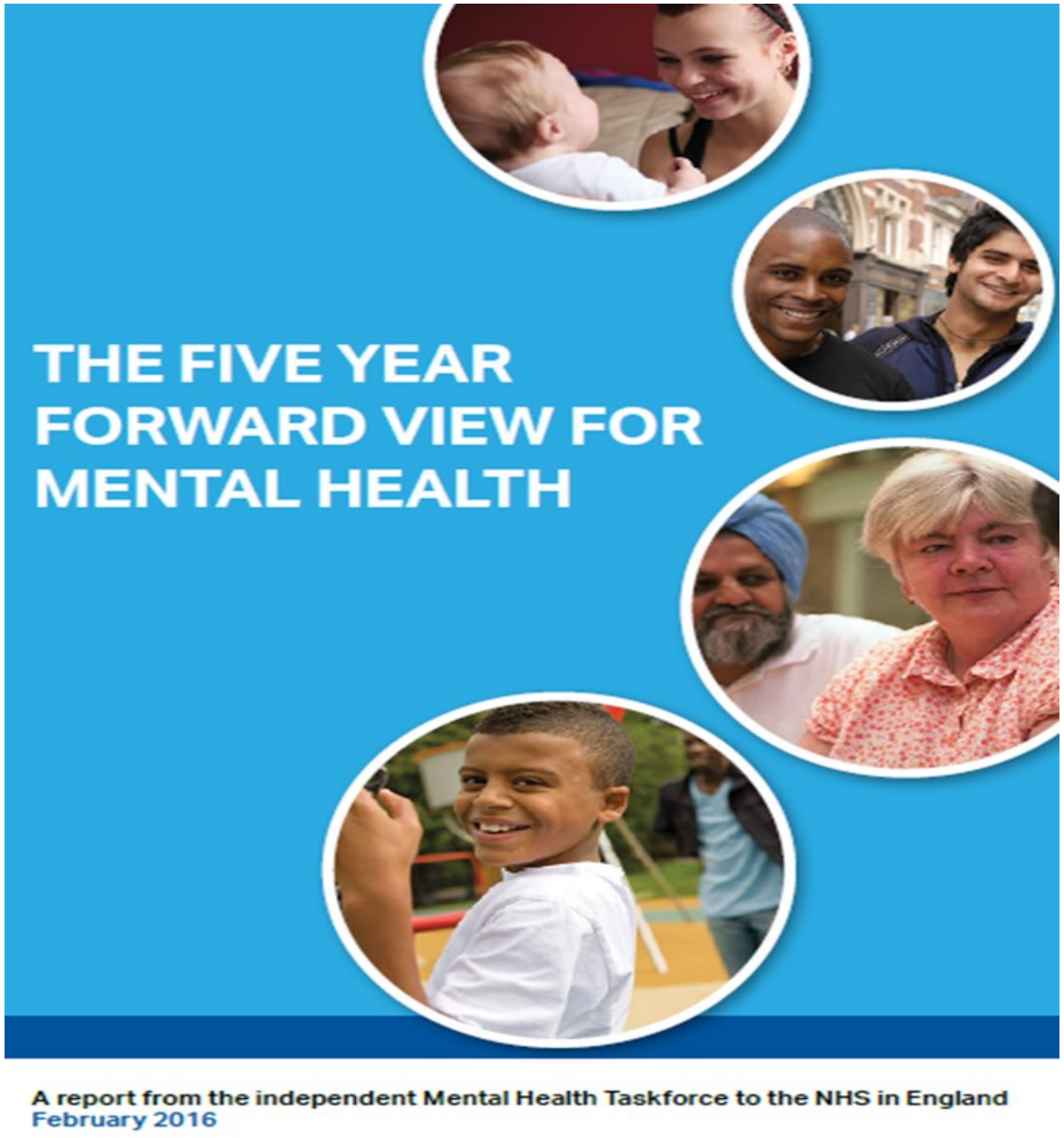

- **CAMHS** – Better access to local services for children and young people, including specialist provision
- **Perinatal mental health** – community teams to support more women, close to home
- **Adult mental health** – improve access to lower level mental health services and crisis response when needed
- **Secure care** – enable more people to be treated closer to home
- **Health and Justice** – improvements in Liaison and Diversion
- **Suicide Prevention** – reducing the number of suicides by 10%
- **New care models** – for specialist services, including Eating Disorders, CAMHS and Secure Care

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Liverpool CAMHS Providers

- Fresh CAMHS at Alder Hey
- Young Person's Advisory Service
- Barnardo's Young Carers
- Merseyside Youth Association
- ADHD Foundation
- Addvanced Solutions
- Bully Busters
- PSS Spinning World
- Merseycare

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Mental Health Technology Landscape

Assessment & monitoring

- Remote monitoring and wearable/ sensing technologies
- Objective assessment, prediction and diagnostics
- Quantified-self

Intervention & therapy

- Online therapies
- cCBT
- mHealth apps
- Virtual reality, gamification
- Neurostimulation

Informatics & Big Data

- EHRs, PHRs
- Platforms & interoperability
- Machine learning
- Decision support
- Personalised medicine

What technologies are the NHS interested in?

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NOT Simple "Supportive" Tools

e.g. trackers
- Mood
- Alcohol
- Activity
- Diet

NHS is unlikely to look at these:
- Too many
- Low risk
- Low cost (or free)
- Limited impact on NHS

Will likely just direct to well-established, freely-available apps or develop our own

Transformative Services and Products

Technologies that deliver tangible benefits to patients or the NHS:
- Improvements in health outcomes
- Support service re-design (in reality reduce costs)
- Improve access – particularly hard-to-reach groups (LAC, BAME, YOS)
- Reduce burden on NHS:
  - Treatment Costs
  - Waiting lists
  - GP appointments
  - A&E attendance
  - Inpatient admissions

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Digitally-enabled Therapy

- Has the potential to increase access and deliver evidence-based interventions at scale:
  - Can address the constraints of static/reduced budgets and lack of therapists
  - May also address practical barriers: travel, time, convenience, choice.
- Evidence suggests blended approaches are more effective than computerized self-guided interventions
- Apps have potential, but field still in its infancy:
  - What's the evidence that they're safe/effective?
  - What's their role in services?
  - Uncertain business case (will the NHS prescribe?)

Sleepio

Big White Wall™

HEADSPACE
TREAT YOUR HEAD RIGHT

The three categories

- CAMHS
- Depression, Self Harm & Suicide
- New Models of Care (leading to improvements in operational productivity)

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What if we could use technology to support and alleviate pressure on CAMHS services?

What if we could identify mental health issues in children and young people earlier?

What if we could use technology to help support children and young people with mental health issues?

What if the assessement of mental health conditions could be automated, to ensure children and adolescents are diagnosed as soon as possible?

What if we could diagnose low level anxiety earlier and in an array of settings, from education to the community?

What if gamification and virtual reality could be used to support the mental wellbeing of our children and young people?

What if we could provide our young people with effective signposting to products and services that could help them?

What if we could monitor young people in real time using technology and provide interventions through technology?

What if we could provide children with cognitive and psychological support earlier and in settings that aren't always the NHS?

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What if technology could help to alleviate depression, reduce self-harm and prevent suicide?

What if technology enabled more tailored interventions to improve efficacy?

What if technology could accelerate engagement and treatment?

What if we could empower people to self manage?

What if technology could provide new tools for mental health diagnosis?

What if technology could help us to connect with hard to reach groups and therefore improve equity of access?

What if big data and AI could assist in understanding depressive, self harm or suicidal behaviour patterns allowing for earlier intervention?

What if games and VR could be used at home to practice skills, improve engagement and enable faster recovery?

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What if technology provided better data integration between different mental health service providers?

What if there were a technological innovation that enabled integration between a national database and local delivery systems in the area of mental health and wellbeing?

What if we could automate decisions about standardised components of care packages? e.g. AI/machine learning

What if case managers could be released from manual reporting and data entry, allowing them to refocus on real case management?

What if technology could enable improved clinical and case management oversight to support better decisions about a patient in specialist care?

What if there was an innovation that ensured data collection was specific, accurate, consistently applied and timely?

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Key challenges for applicants

- What unmet need/priority does the technology address?
  - Involve clinicians, service users, commissioners
- How will the technology fit into NHS services?
  - Mapping and understanding care pathways
  - Interoperability, data sharing, security and privacy
  - What additional burden does it place on services or staff
- What's the commissioning case/ value proposition?
  - Know what the NHS will pay for and what it won't
  - Understand priorities of commissioners & providers

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Mental Health is EVERYONE'S business

- Look around you – at least 15 people in the room are struggling with their mental health
- Think of your loved ones – they could become the 1 in 4
- I can treat one person at a time – what can you do?

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www.freshcamhs.org

@FreshCAMHS on Twitter

SBRI
BioSensors Ltd

(A Med eTrax Company)

Transforming Paediatric care with Transdermal Sensors

John Hopkins (BioSensors Ltd)

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Setting the scene

Current situation

- 8 out of every 1000 babies
  Have a form of congenital heart disease
- The Traditional method of monitoring is to take regular blood samples
- Wait for results
- This depletes the blood volume
- Introduces the risk of infection
- Causes Pain and Bruising
- Causes distress to parents and family
- Significant gaps between samples

What If

- We didn't have to take blood
- We didn't have to wait for results
- We could take more regular measurements
- Track Changes more closely
- Reduce risk of infection
- Reduce trauma
- Reduce distress parents and family

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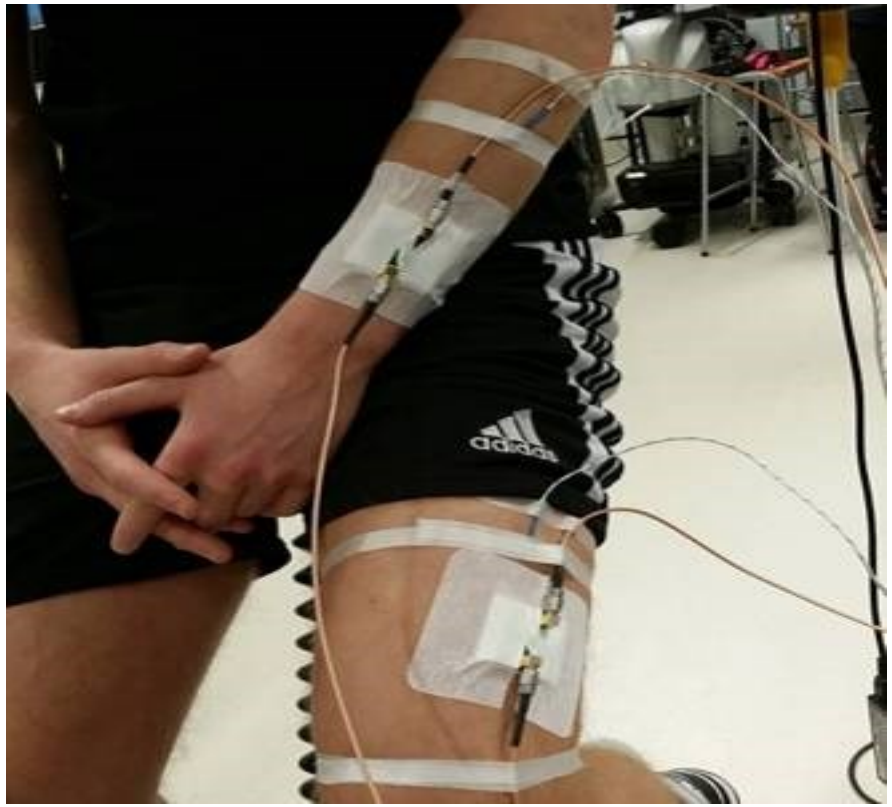
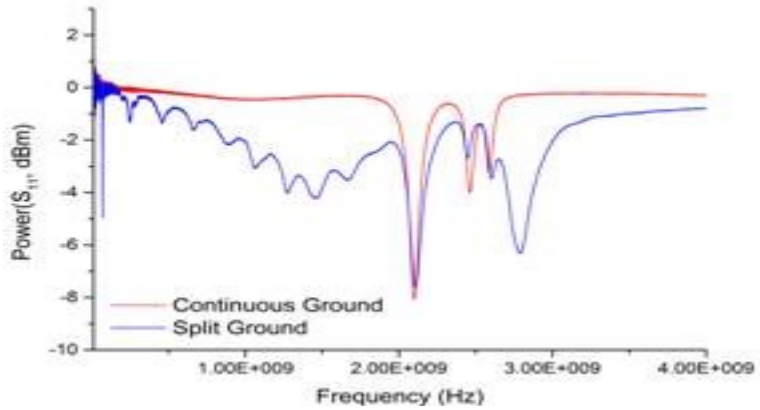
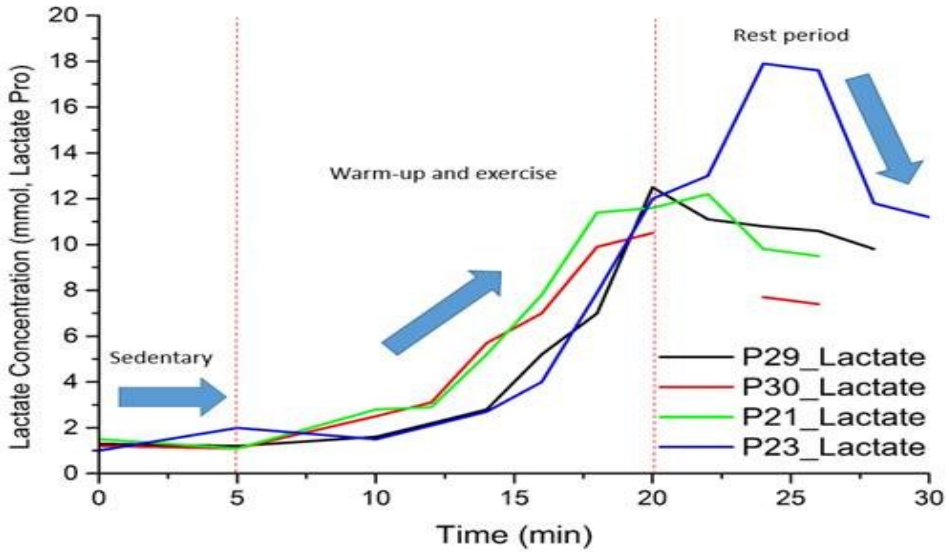
Proving ground Lab work with Athletes







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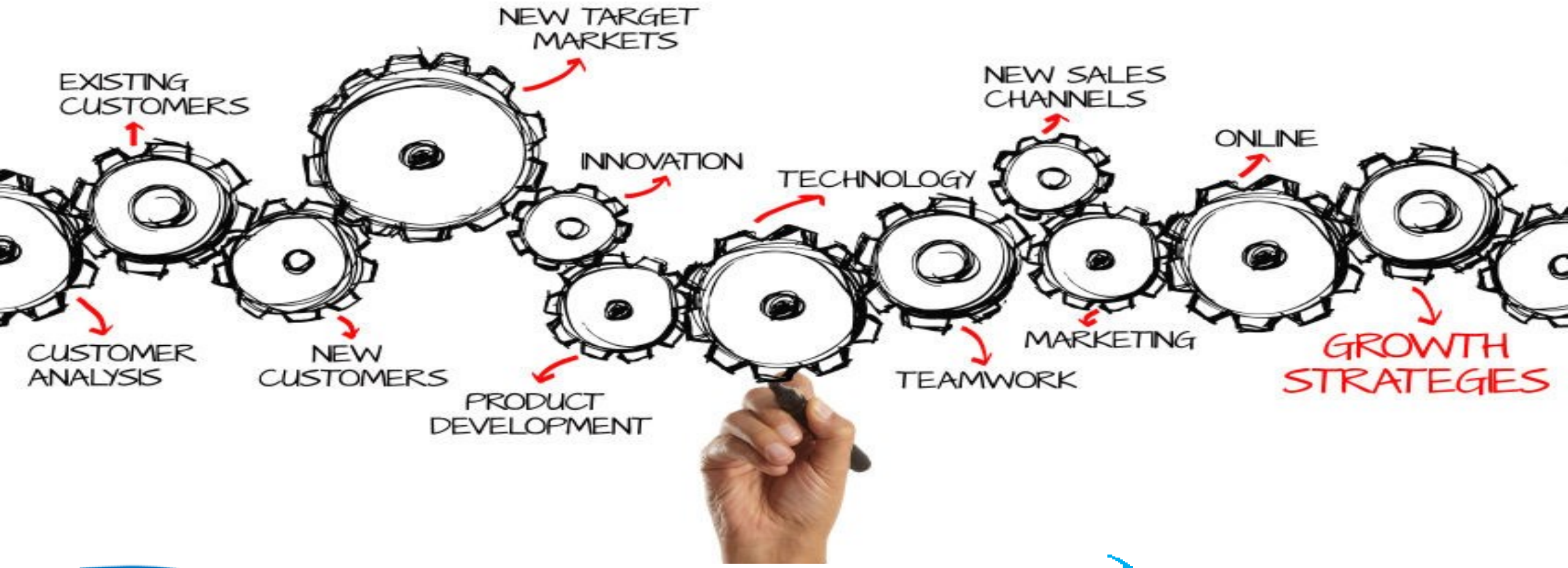
COMMERCIALISATION



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The application process

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Application Process

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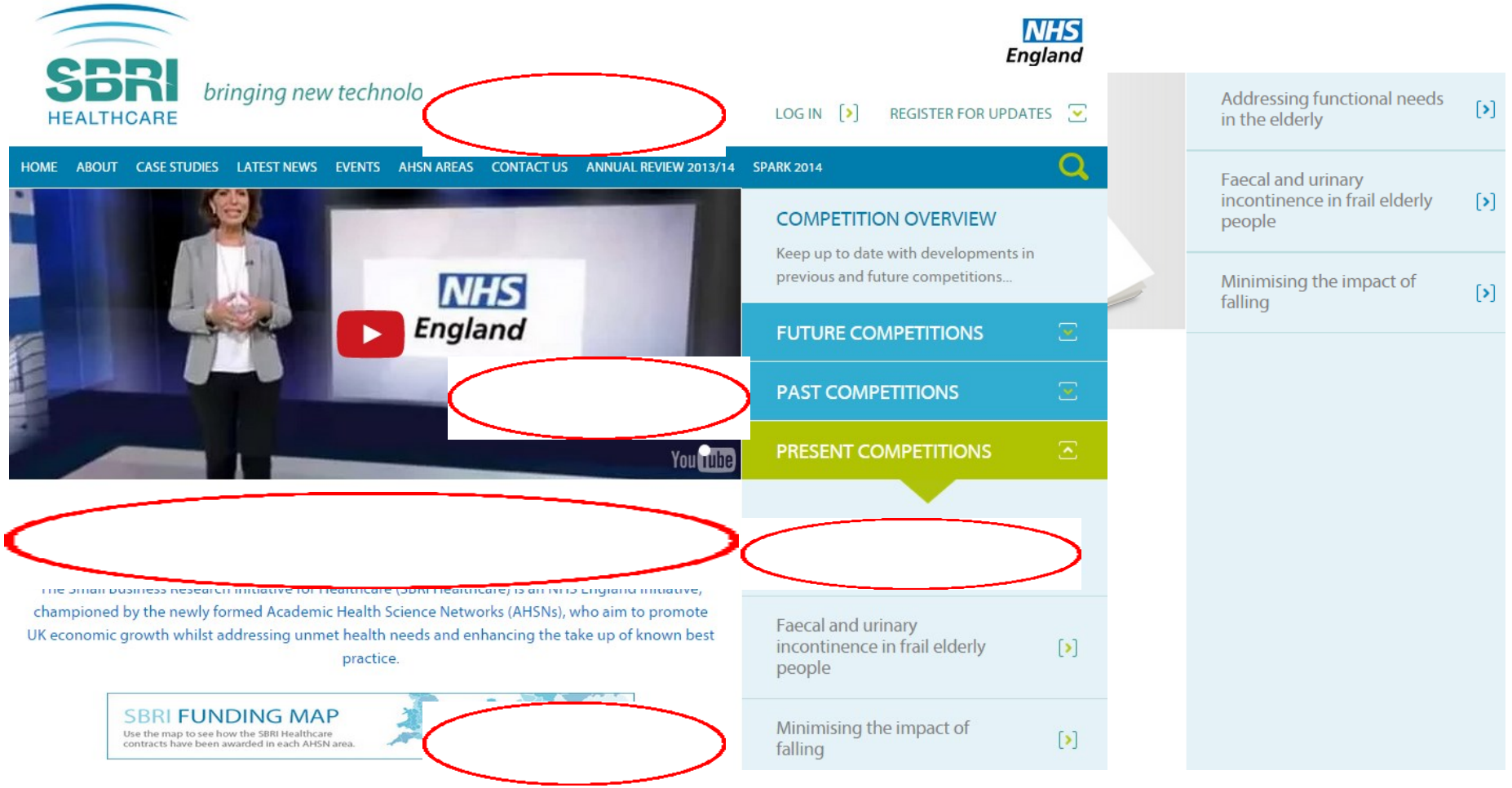

The AHSN Network

NHS England

SBRI HEALTHCARE

bringing new technologies to the NHS

Home » A-0014

This submission is in stage **Active Applications** with a status of **Active**
It was last updated at: 06/16/2015 01:55:24 PM.

Active Applications

Task	Status	Actions
Download of Application Guidance	INCOMPLETE	Start
	INCOMPLETE	Start

View Rankings

Progress

This submission is 0.0% complete. You still need to:

- Complete task "Download of Application Guidance"
- Complete task "Application Summary"
- Complete task "Company Details"
- Complete task "SBRI Application Form"
- Complete task "Declaration"
- Submit

Members

Nicholas Offer (Owner)

Add Member

Edit Members

SBRI HEALTHCARE

SBRI Application Form

Language English Go

0%

Required fields are noted with an *

1) Description of Proposed Idea/Technology *

Please provide a brief description of your proposed idea/technology and how this addresses the customer need, market and patient problems. Include how you plan to engage key stakeholders in Phase 1. Please consider defining the market/patient you plan to address; the implications, size, cost of the problem and market. Outline your solution and how it meets the market/patient needs, including the needs described in the competition category brief, how it could be implemented, cost of doing so and any other matters arising from its adoption. To support this description you may upload an image file by using 'Upload Proposal Document(s)' Task, which is available from the Main Application task menu. (500 word limit)

2) Technical Project Summary *

Please give a short assessment of the key technical chal... will be overcome. List the key technical deliverables and how they will be met. In addition, please provide a sh... limit).

Save Progress Check Form & Next Page

NHS England

Application Summary	INCOMPLETE	Start
Company Details	INCOMPLETE	Start
SBRI Application Form	INCOMPLETE	Start
Upload Attachment (optional)	PREREQUISITES NOT MET	
Upload 2nd Proposal Document (optional)	PREREQUISITES NOT MET	
Declaration	INCOMPLETE	Start
Submit your application	PREREQUISITES NOT MET	

Add Member

Edit Members

Withdraw Application

Assessment Criteria

1. What will be the effect of this proposal on the challenge addressed?
2. What is the degree of technical challenge? How innovative is the project?
3. Will the technology have a competitive advantage over existing/alternate technologies that can meet the market needs?
4. Are the milestones and project plan appropriate?
5. Is the proposed development plan a sound approach?
6. Does the proposed project have an appropriate commercialisation plan and does the size of the market justify the investment?
7. Does the company appear to have the right skills and experience to deliver the intended benefits?
8. Does the proposal look sensible financially? Is the overall budget realistic and justified in terms of the aims and methods proposed?

Key Points to Remember

- Research and define the market/patient need
- Review the direct competitor landscape and make sure you define your USP
- Consider your route to market, what is the commercialisation plan? Do you know who your customer will be, how will you distribute, how much will you charge for the product/service?
- How will the project be managed (what tools will you use, how will the team communicate etc)
- Provide a clear cost breakdown
- Make sure you answer all of the questions in sufficient detail
- Try not to use too much technical jargon, sell the project in terms the NHS will understand (outcomes, benefits to patients etc)

Contact Us

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Any Questions?

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