



SBRI Healthcare Programme

An NHS England funded initiative delivered with support from the
Academic Health Science Networks

2017 competition: Cancer

www.sbrihealthcare.co.uk

@sbrihealthcare

Agenda

25th July, 2017

13.00 – 13.10

Welcome – Dr Shirlene Oh, Director of Commerce, Innovation and Capability Development, Imperial College Health partners

13.10 – 13.20

How SBRI works & what it has delivered

Joop Tanis, BD and SBRI Healthcare Director, Health Enterprise East

13.20 – 14.00

Cancer: Screening, Earlier & Faster Diagnosis – clinical presentations by: Prof Stan Kaye, Consultant Medical Oncologist, Royal Marsden NHS Foundation Trust & Dr Michelle Chen, R&D Manager RM

14.00 – 14.20

Clinical Q & A session

14.20 – 14.40

How to make a successful SBRI application

Joop Tanis, BD and SBRI Healthcare Director, Health Enterprise East

14.40 – 14.50

Q & A

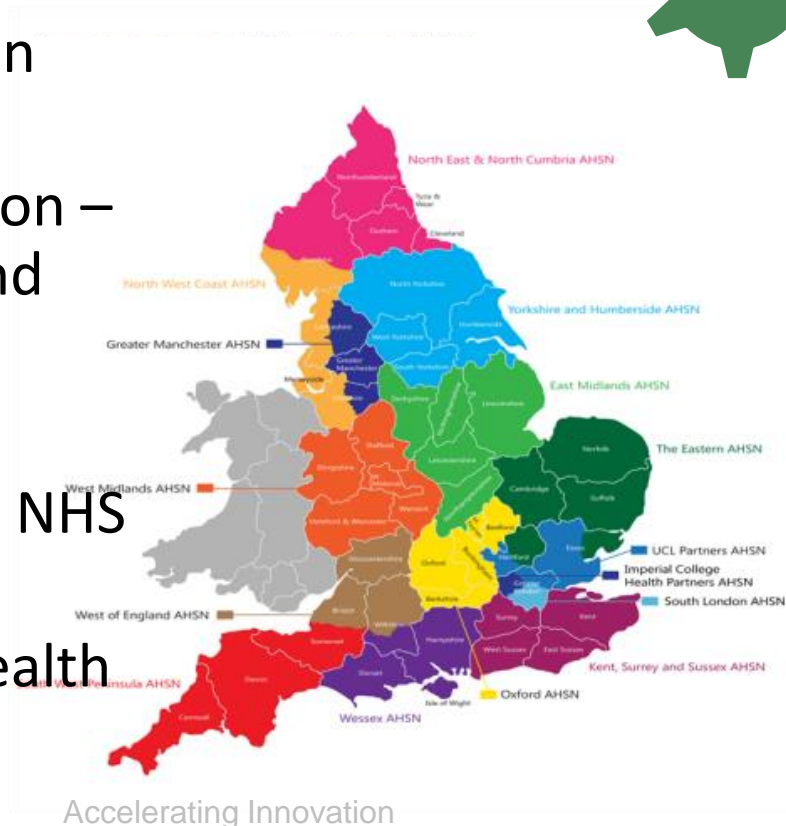
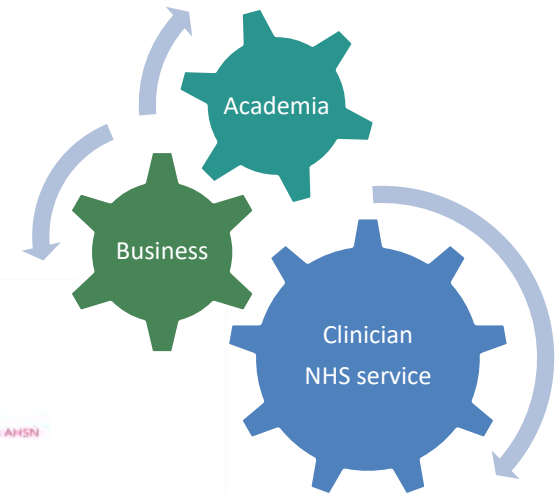
15.00 – 15.30

Refreshments and Networking

Academic Health Science Networks

15 Academic Health Science Networks across England

- Licensed and mainly funded by NHS England
- Promoting innovation in healthcare
- Disseminating innovation – from the UK and beyond
- Improving care across whole systems
- Providing access to the NHS for industry
- Creating wealth and health





SBRI Healthcare Cancer, Earlier and Better Diagnosis and Screening The SBRI Healthcare Programme

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Joop Tanis

BD and SBRI Healthcare Director, HEE

How SBRI works & what it has delivered

joop.tanis@hee.co.uk



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



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



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



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





www.innovateuk.org/sbri

website contains details of all SBRI competitions



SBRI Process

AHSN led - typically undertaken by clinicians – service driven

AHSN led - Workshops with industry to support understanding

PHASE 1: Typically 6 months – max of £100k

PHASE 2: Typically 12 months – milestones agreed & monitored

PHASE 3: Typically 12 months – milestones agreed & monitored

Problem Identification

Open call to Industry

Feasibility Testing

Prototype development
Pathway testing &
Proof of Value

Assessment

Assessment

Open Procurement


Due diligence & contracts



New Competition July 2017

Competition launch:	25 July 2017
Closing Date:	Noon 6 th September
Briefing Events:	25 th July - London 26 th July – Nottingham Leeds 27 th July - Manchester
Technical Assessments:	September 2017
Clinical Assessments:	September 2017
Interview panels:	October 2017
Contracts awarded:	November 2017





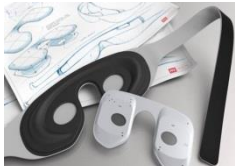


General Practice of the Future

SBRI Healthcare NHS England competition for development contracts

September 2016





SBRI Healthcare is an NHS England programme funding potential solutions to address unmet healthcare needs



OUR YEAR IN NUMBERS



applications from industry assessed and supported or feedback given

FOUR YEARS OF DELIVERY



IMPACT FOR PATIENTS

Polyphotonix

The Noctura 400 is a sleep mask that uses light therapy to treat diabetic retinopathy. The alternative treatments are much more invasive and unpleasant for patients.

INDEPENDENTLY AUDITED BY HEALTH ECONOMISTS

2012-13 **£510m** potential saving and potential to impact **23m** patients



2013-14 **£424m** potential saving and potential to impact **4m** patients



2014-15 **£299m** potential saving and potential to impact **1.9m** patients



“

When I was first diagnosed with retinopathy, it was very much doom and gloom. No one could tell me that I would definitely still be able to see my children in 10 years' time. Now, I finally feel hopeful again. I just wish I'd known about the mask earlier before the damage to my eye happened.

Neil, London

POLYPHOTONIX



“

I believe passionately that patients, on a daily basis, are solving problems and finding solutions to everyday problems. Thanks to SBRI I have the opportunity to take my patient-led innovation and help improve the lives of other patients and also make it easier for healthcare professionals to manage us remotely. SBRI has been the catalyst to drive forward and get our device embedded within the NHS system and I am incredibly grateful for the opportunity. The hard work starts now.

Michael Seres, CEO and patient

I had my first stoma aged ten. Everyday life as a teenager is difficult enough let alone having to tell your friends that you have got this added extra attachment...I was forever worried about if people could see the bag and worried about leaks. I never slept because I was so worried about it overfilling and messing the bed. The sensor would improve my life because it would stop leaks, it would stop the anxiety of going out.

Amy Louise Grime, Crohn's patient

”

11 Health

Michael Seres is an ostomy (stoma) patient and wanted to find a better way of knowing if the ostomy bag is full. He developed the Ostom-I Alert sensor and is now CEO of 11 Health to further develop and market the product.

11 health
smart technology



IMPACT FOR BUSINESS AND THE ECONOMY

Cupris

Cupris have developed an otoscope (for ear examination) that clips to a smart phone and then supports the diagnoses of ear conditions and hearing loss. They have successfully used their SBRI funding to leverage additional investment, including nearly £500,000 through crowd-funding. They are also running tests in Malawi and Nepal with additional trials planned in India, Cambodia and East Africa.

Total award: £926,990

"The reason I invested in Cupris is I believe in projects that can deliver both a financial and social return. Cupris has a great team, a great mix of skills, a great track record. The product is brilliantly designed; it's very simple, very easy to use, but also very cost-effective. So that will deliver the financial return. On top of that is can be used in remote rural areas, in developing countries by people who have no previous experience, no skills in using it, and that's what will deliver a massive social return."

Stephen Dawson

Impetus and Jacana Venture Partnership



1
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frica.

ECONOMIC EFFECTIVENESS

68 SBRI-backed companies responded to researchers quantifying the impact of SBRI Healthcare since 2008. Some results from these 68 respondents:

- 57**  had recruited staff
- 17**  are already selling – most of the others estimate they will be selling within two years
- 9**  are exporting
- £37m**  additional investment had been secured
- 47**  patent applications pending
- 19**  patents awarded

IMPACT FOR CLINICIANS AND THE NHS

Docobo

“

Building Partnership working with Docobo has promoted innovation in health and care pathways which is key to transformation at Crawley, Horsham and Mid Sussex Clinical Commissioning groups.

It is about system transformation rather than just service.

Risk profiling has not only allowed to work intelligently around individual patient needs but also helped to target care adding effectiveness and efficiency.

In addition to this, collaborative cross sector conversations are enabled to integrate care, promoting a culture shift which is essential for joined up care.

Dr Laura Hill - Clinical Director, Crawley CCG

Docobo has developed a range of remote digital solutions to help the NHS and patients to improve healthcare. Their ARTEMUS-ICS™ system is breaking new ground with SBRI

Healthcare funding. The new elements of the system will enable more accurate segmentation of the population to target and deliver care more efficiently. It also tracks and reports patient outcomes. Designed specifically for integrated care communities, the new system is adding Social Care, Community, Mental Health and Ambulance data to the present GP and Acute information. This comprehensive population data will provide care planners and co-ordinators with analysis at population, geographic and individual levels and provide management with cross-sector cost analysis (including at patient/client level). The data can be 'sliced and diced' to deliver all manner of information enabling multi-disciplinary teams to analyse their local communities' health needs.

Crawley, Horsham and Mid-Sussex CCGs sought the Docobo solution for their award winning Proactive Care programme – which was designed as a new way of caring for those with complex health and social care needs. They have been working with Docobo to design the software that identifies patients who are at higher risk of their health worsening and being admitted to hospital. Collaborative development of the new system is set to produce the functionality needed by the CCGs to optimise their integrated care programme.



24 NHS needs clearly articulated and specified for industry



Over **72** expert managers and clinicians were engaged in the assessment of company proposals



15 AHSNs support the SBRI programme by identifying areas of need that the NHS has prioritised



Over **30** companies have initiated clinical trials



130

Companies supported by NHS expert managers and clinicians alongside AHSNs to develop their innovations



”

AHSN/SBRI companies

Scotland & N Ireland
Radisens, Edixomed,

**Grter Manchester
& NW Coast**
- Sky Med, Rapid
Rhythm, Veraz

**North East &
North Cumbria**
Polyphotonix Ltd

Yorks & Humber
Halliday James Ltd

East Midlands
Monica Healthcare Ltd,
Astrimmune Ltd

West Midlands
SensST Systems, Just
Checking Ltd

West of England
SentiProfiling, My
mHealth, HandAxe
CIC

Wessex
CreoMedical, Morgan
Automation

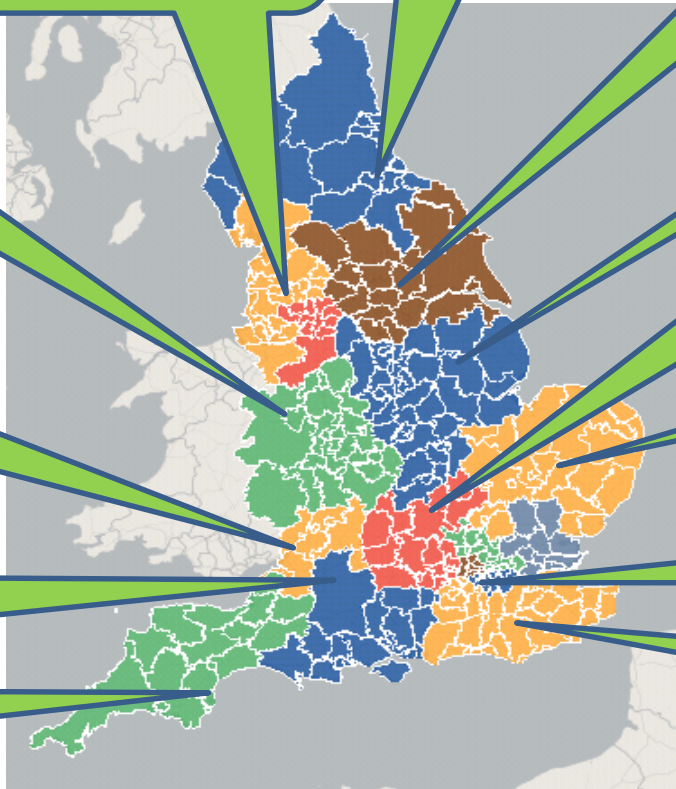
South West
Frazer Nash

Oxford -
Fuel 3D, Oxford Biosignals,
Message Dynamics

Eastern -
Aseptika,
Bespak,
TwistDX

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

**Kent, Surrey &
Sussex**
Anaxsys, InMezzo





SBRI Healthcare Cancer, Earlier and Better Diagnosis and Screening Clinical Presentations

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SBRI Launch: The Cancer Challenge

London, July 25 2017

Professor Stan Kaye & Dr Michelle Chen

RM Partners Research Directorate

- 1) The current picture
- 2) Screening/early diagnosis:
 - a) Challenges
 - b) Key opportunities: 'What ifs...?'
 - c) Examples of current research
- 3) Faster diagnosis
 - a) Challenges
 - b) Key opportunities: 'What ifs...?'

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theguardian

Cancer

UK cancer survival rates lag behind those of other European countries – study

Experts highlight need for earlier diagnosis and improved access to treatments, as figures show UK healthcare spend is lower than the European average

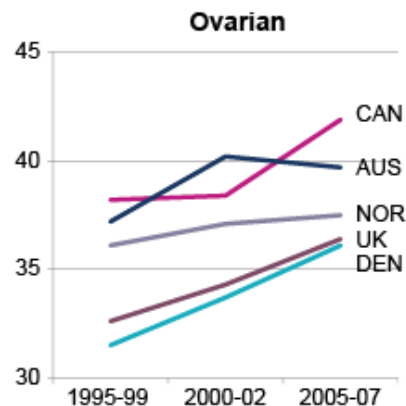
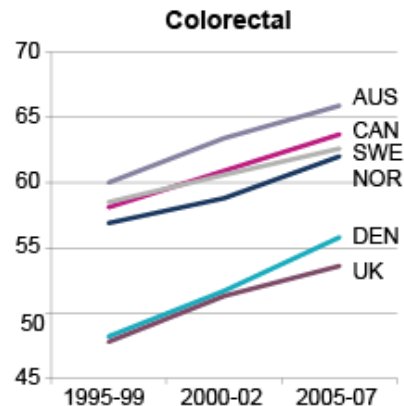
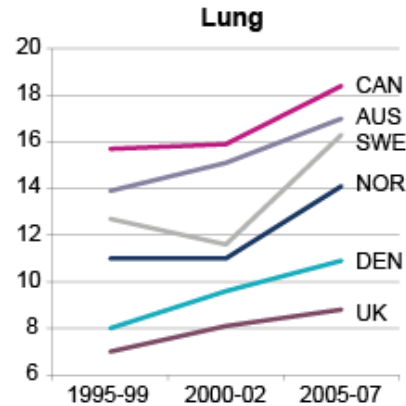
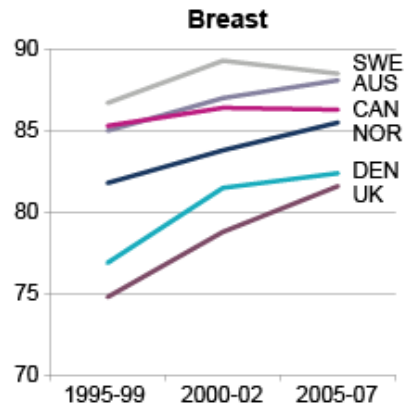


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July 18th 2017

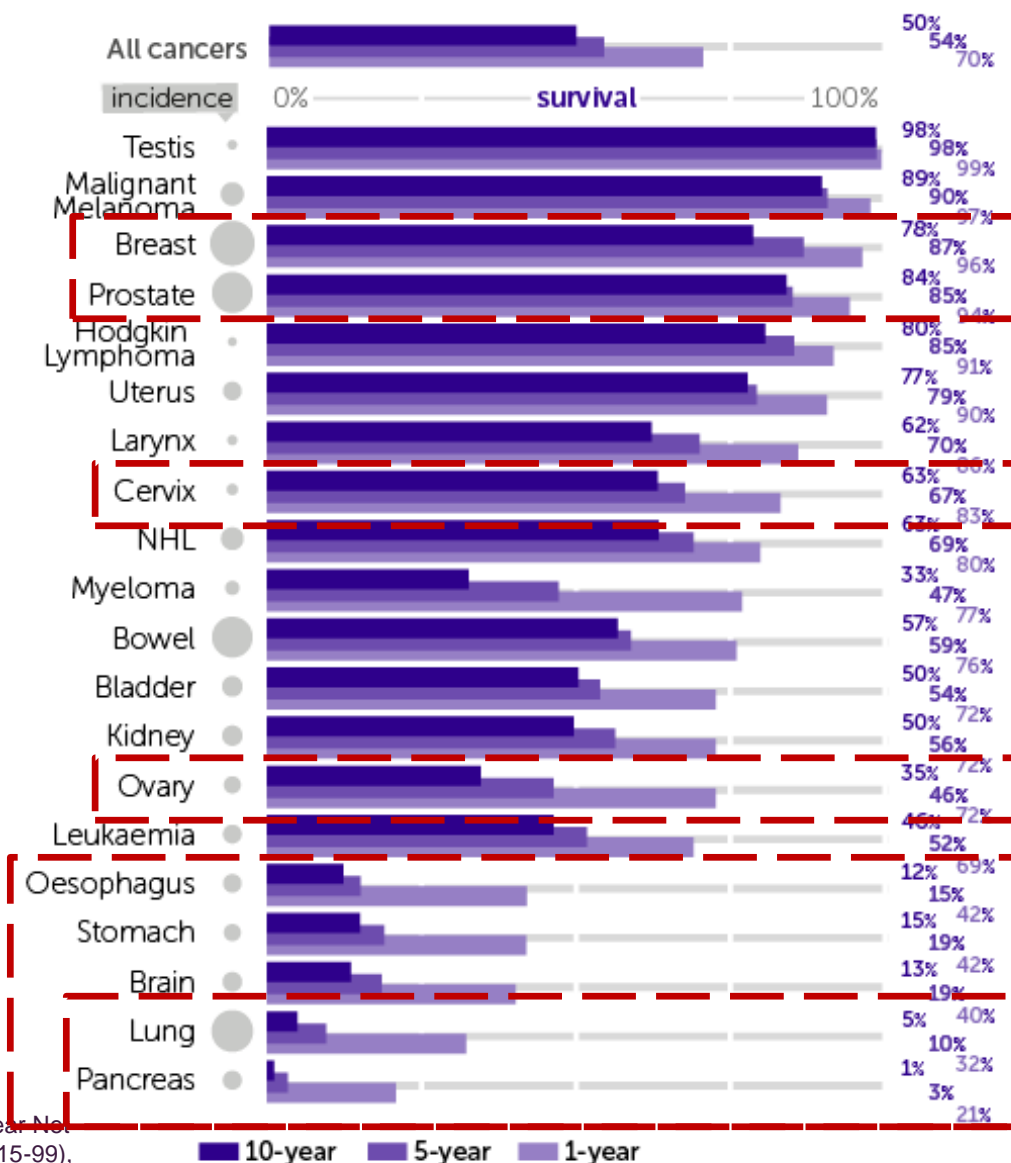
ICBP 5 Year cancer survival



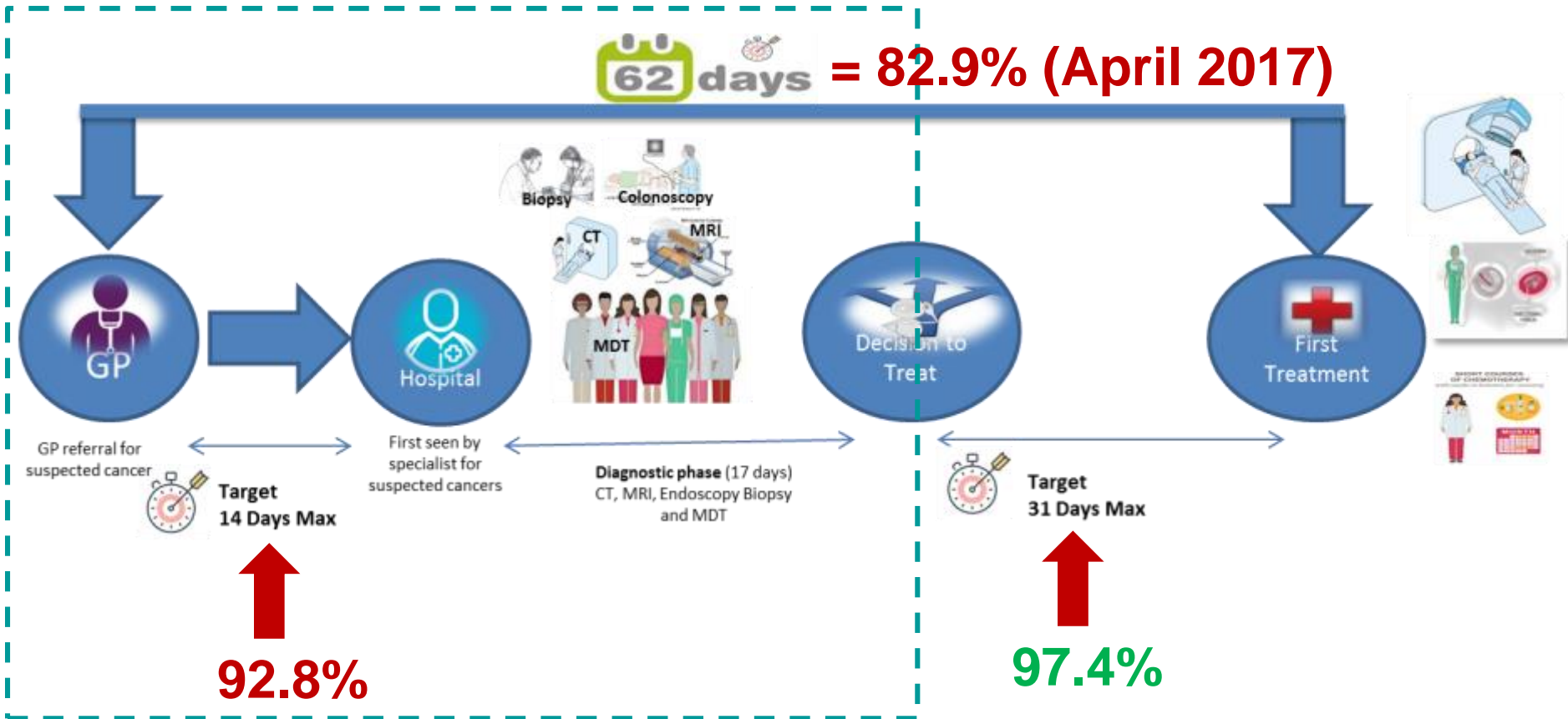
AUS CAN SWE NOR DEN UK

Factors underlying poor UK figures include:

- Delayed diagnosis
- Suboptimal treatment

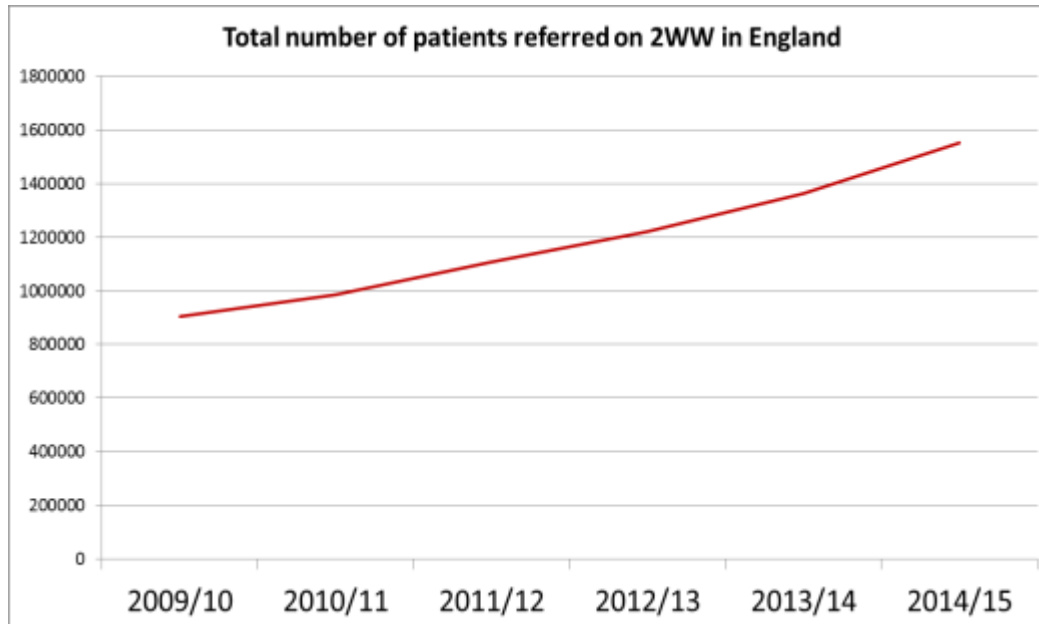


National Targets: Cancer Wait Times



Targets are not being met due to the front end of the pathway

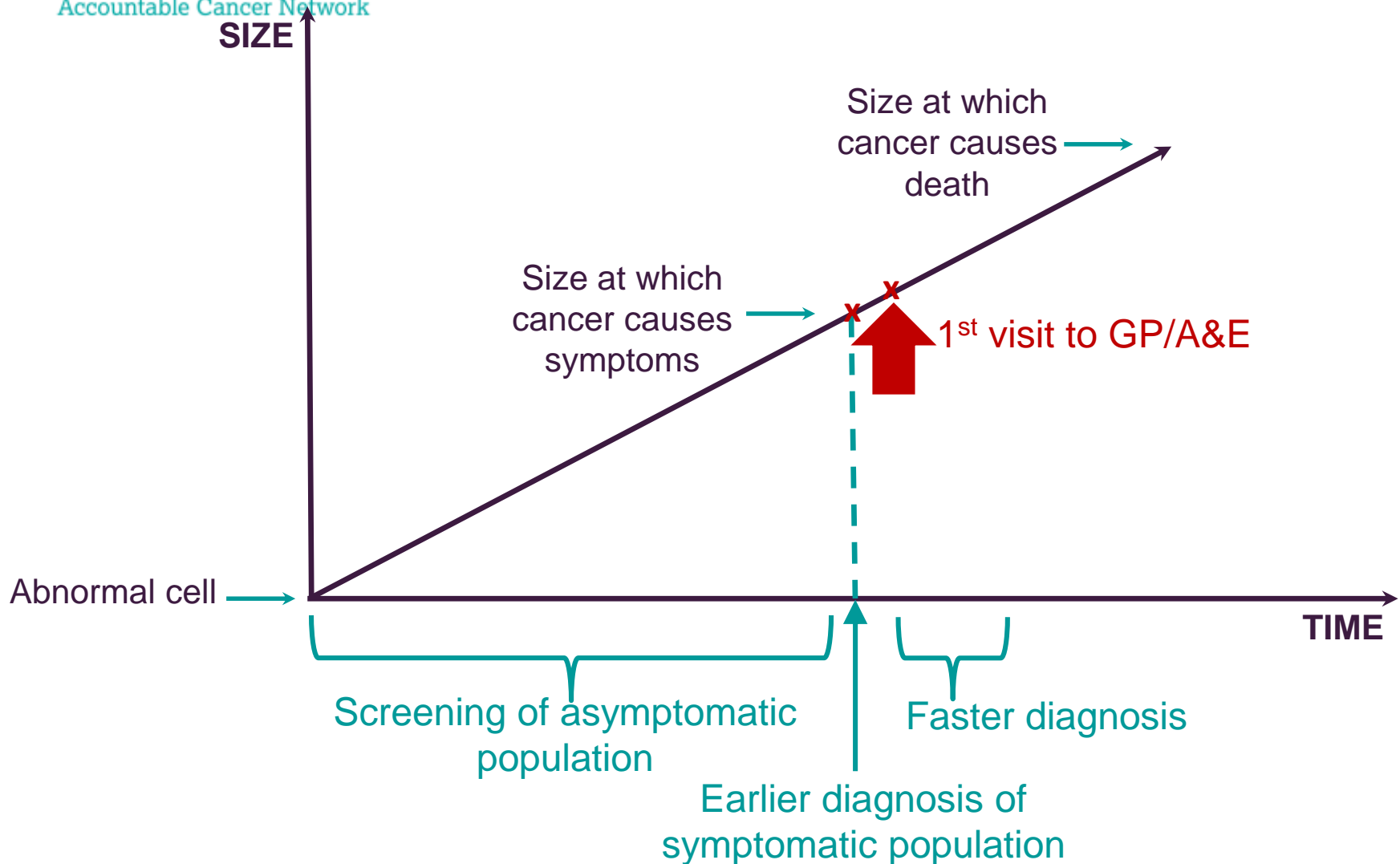
Increasing 2ww referrals

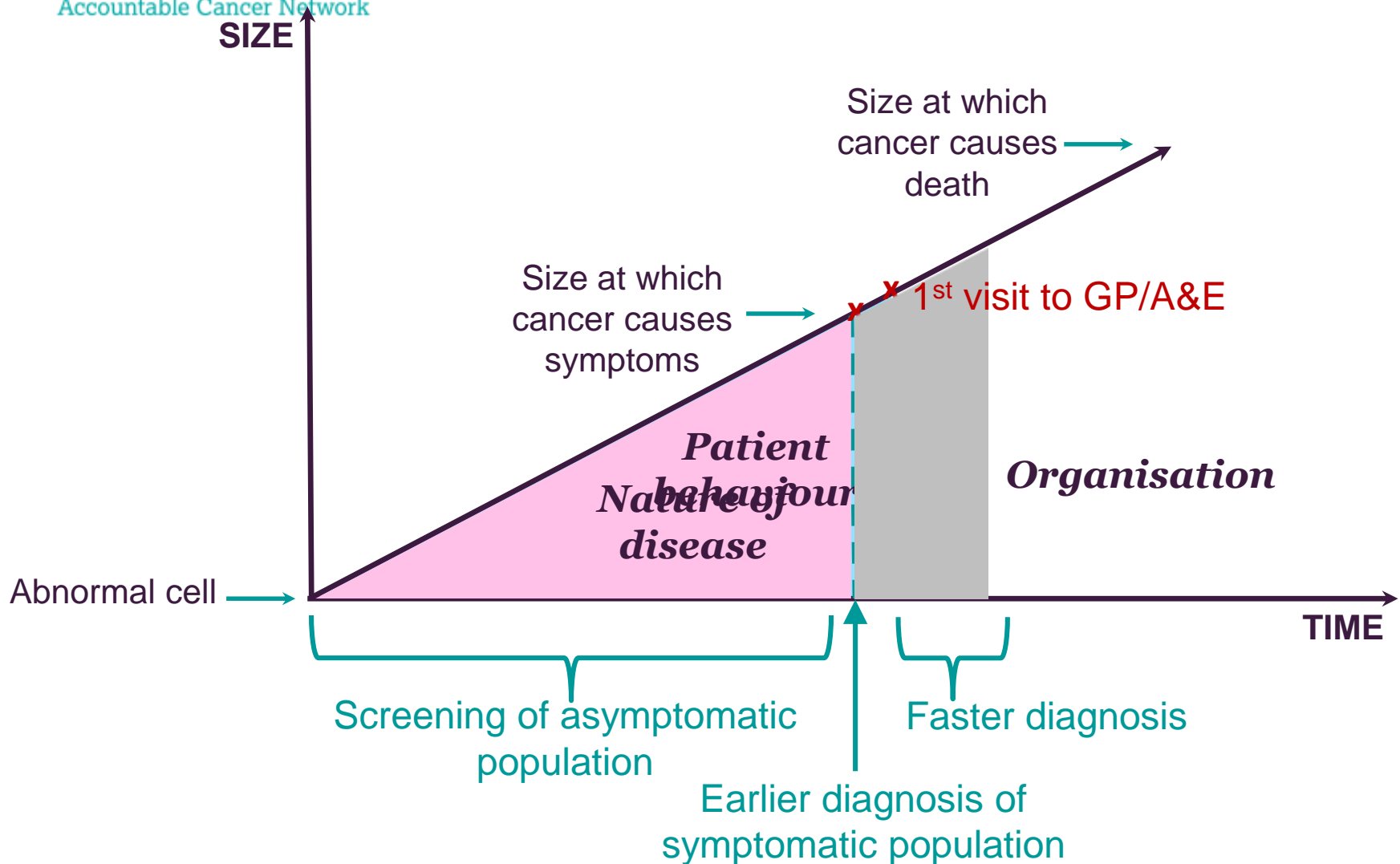


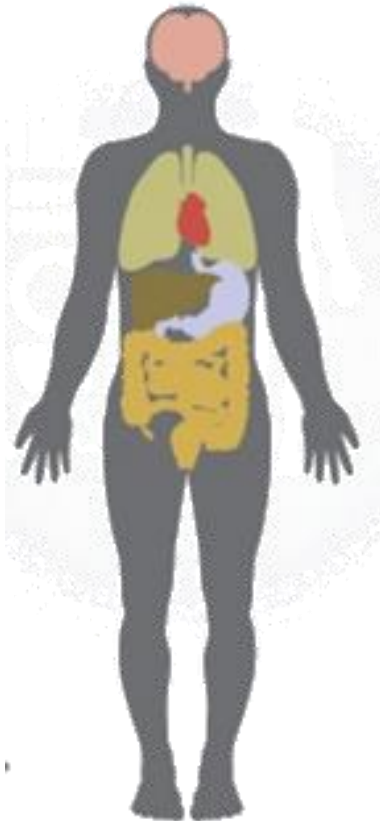
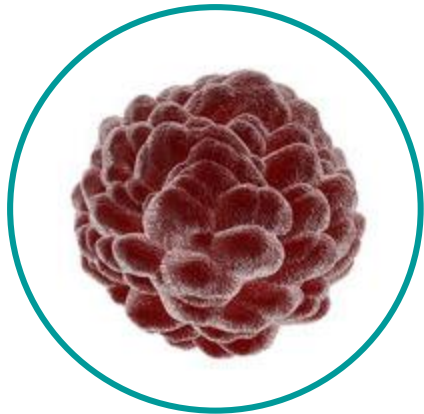
Incidence of cancer is still rising

Also expecting:

- Increase in endoscopy from bowel cancer screening e.g. Bowelscope, FIT, etc
- In the next years, expect to see a national lung screening programme, further pressure on CT capacity







Colorectal	Pancreas
Early diagnosis is possible by detection of blood in stool	Generally not possible
Cervix	Ovarian
Early diagnosis is possible by pap/HPV test	Generally not possible
Existing screening programmes	

What if new biomarkers can be used to detect cancers earlier?

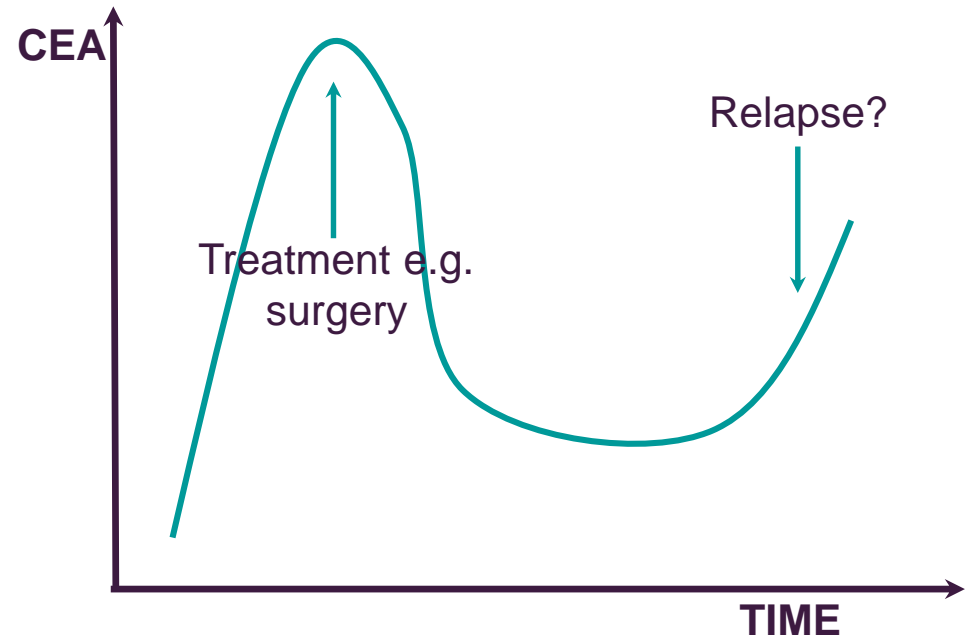


*What if we could
better identify those
where observation
rather than
treatment would be
appropriate e.g.
prostate?*

All cancers are not the same

- Some early cancers may not need treatment, e.g. prostate cancer Gleason grade 3, breast ductal carcinoma-in-situ
- The majority certainly do
- Research programmes focus on markers predictive of cancer behaviour

Nature of disease

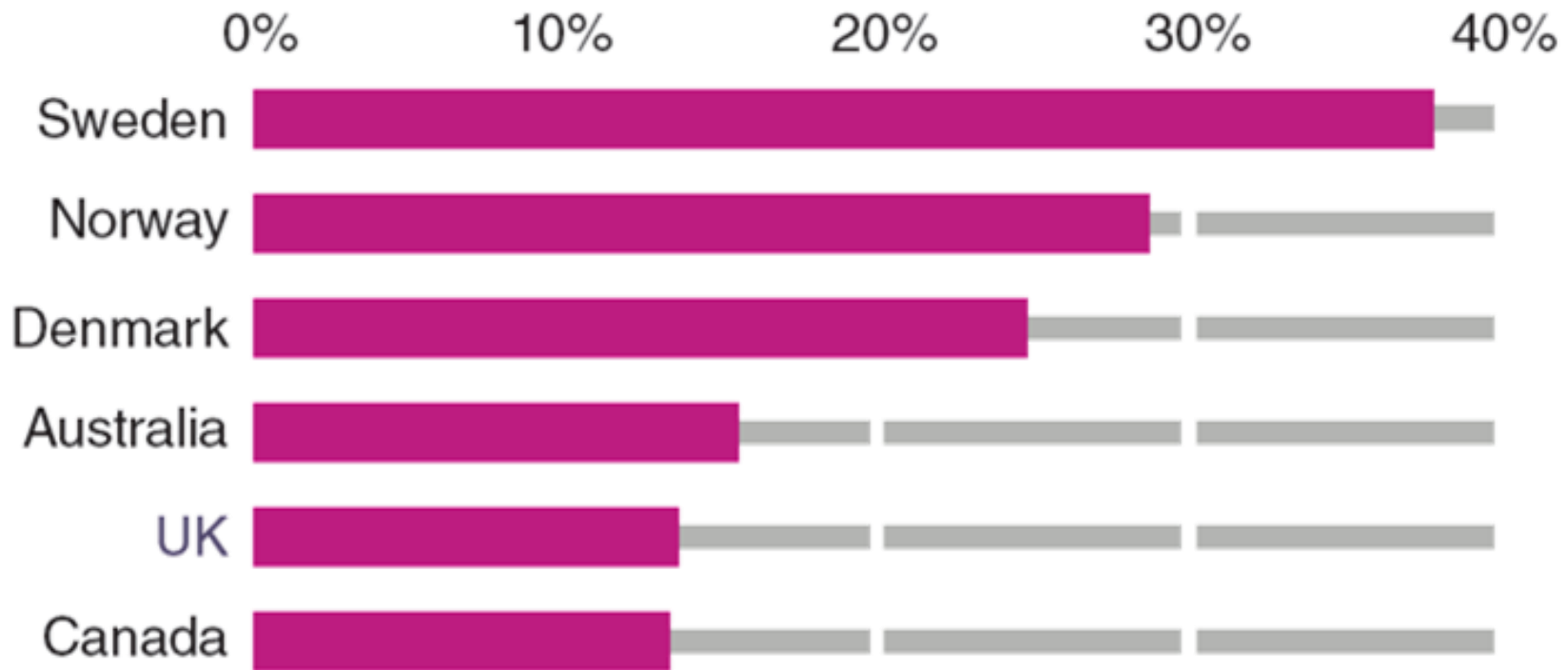


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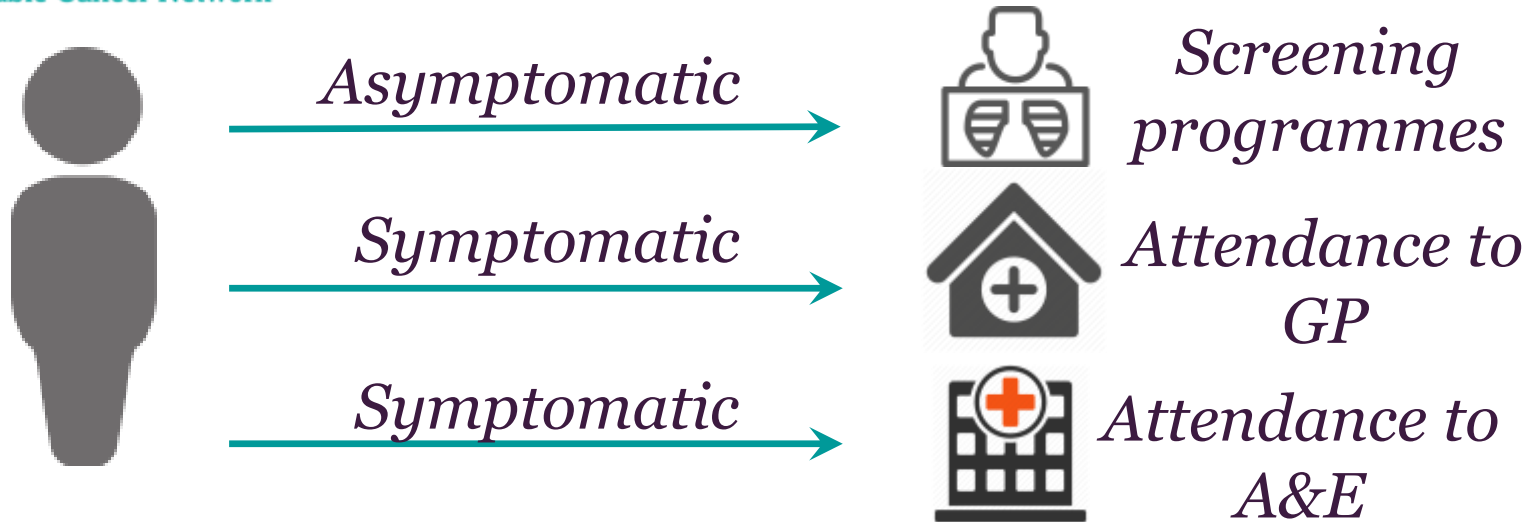


What if there were better markers of early recurrence of disease e.g. colorectal?

Awareness that cancer risk increases with age



Proportion of respondents who said that 70-year olds are most likely to be diagnosed with cancer (rather than 30-year olds, 50-year olds or people of any age)



How much does this explain UK's poorer survival figures?



Key opportunities in Cancer Screening

Robust risk stratification

- What if there were greater accuracy in determining cancer risk when screening patients
- What if we could initiate targeted screening by analysing family history and genetic predisposition
- What if high risk groups within the cancer survivor population were screened for specific second cancers

Reduced uptake of screening and responses to invitations for screening

- What if we could improve the uptake of targeted screening
- What if screening methods were more “patient friendly” e.g. imaging, blood, saliva, urine or breath based
- What if remote screening services were more widely available e.g. mobile CT screening

Risk Stratified Population-based Screening



Asymptomatic population

- With no risk stratification, 1-2 / 100 people will have cancer detected
- 98-99/100 will not have cancer (lung/bowel)



Asymptomatic, high risk population

- Blood, urine, stool, etc.
- Genetic markers, family history, metabolic profile etc



Early stage cancer identified

- Screening programme

With risk stratification, 1-2/10-20 people will have cancer detected

Key opportunities in Earlier Diagnosis

Lack of specific and sensitive diagnostic tests

- What if existing technologies could be adapted for earlier/more accurate diagnosis of cancer e.g. imaging
- What if new technologies could be introduced, e.g. breath test (oesophageal, lung, pancreas, colorectal)
- What if there were circulating DNA based diagnostic tests on blood samples

Unacceptable proportion of patients that present with later stage cancers (at A&E)

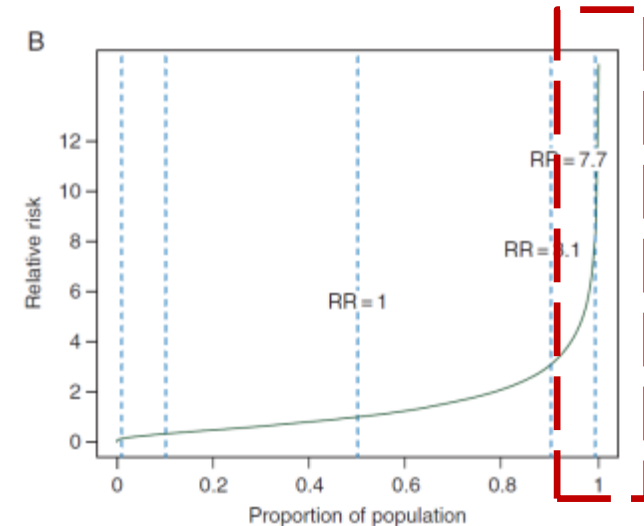
- What if there were easier access to advice, imaging equipment, or point of care diagnostics in primary care, or elsewhere in the community

Lack of encouragement for patients to seek help

- What if patients were better informed about recognising possible symptoms of cancer
- What if patients with vague symptoms were encouraged to seek help earlier

a) Risk stratification, based on cancer predisposition genes

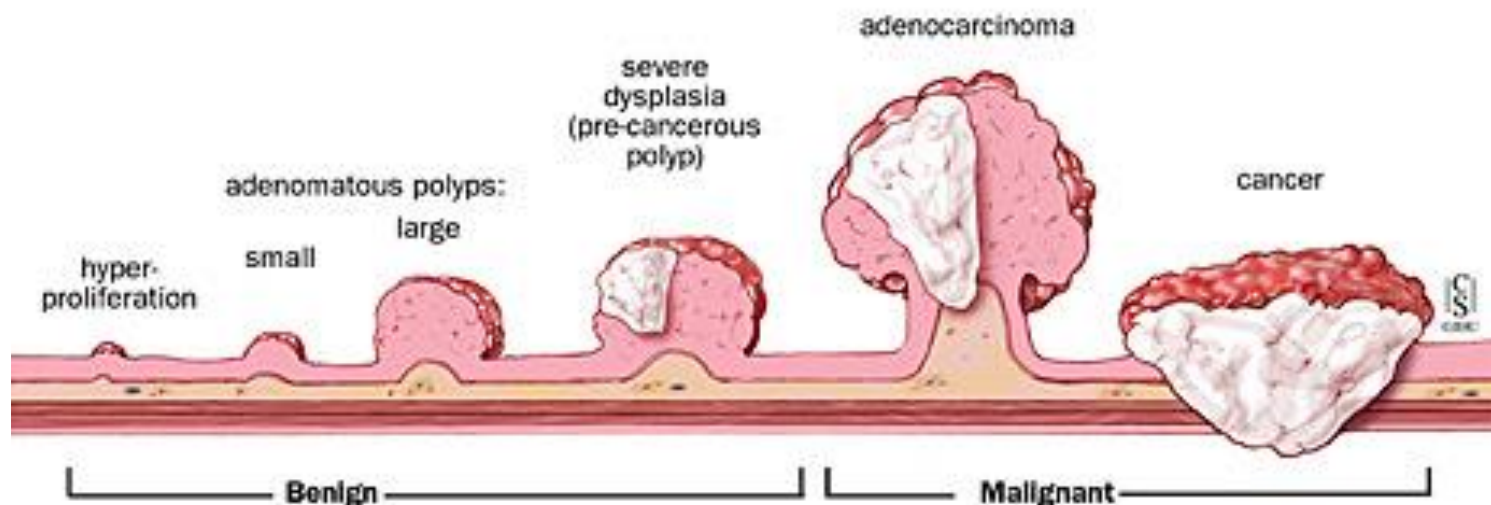
- Breast
- Prostate
- Colorectal
- Derivation of polygenic risk score



Personalised screening for top 1% with 7.7 fold increase risk of CRC

Examples of research into screening /early diagnosis

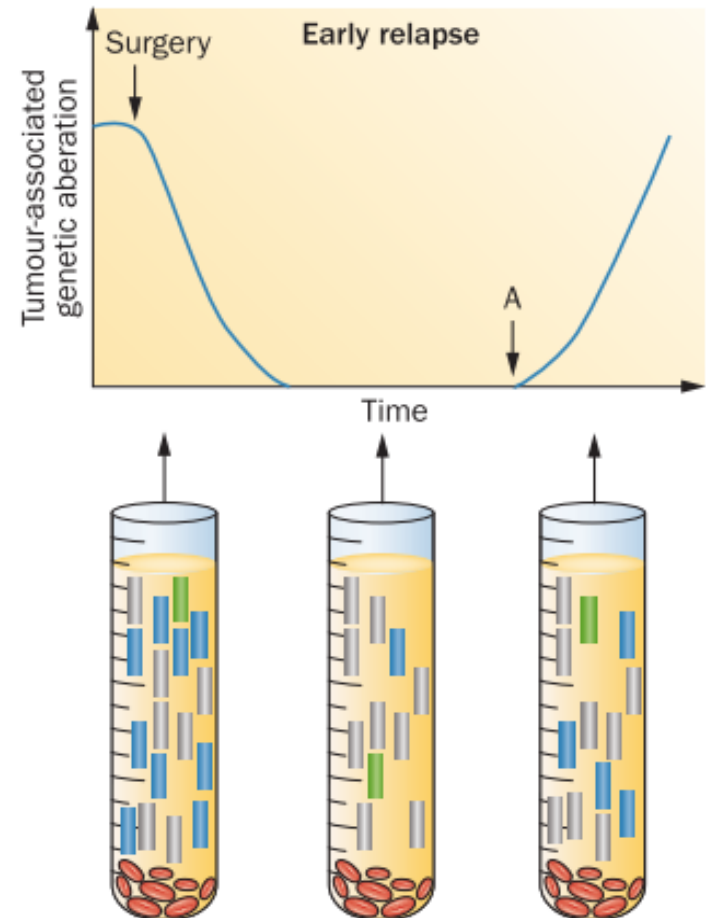
- b) Translation of evolutionary science into early detection
- Examples – colonic polyps developing into carcinoma
pre-malignant Barrett's oesophagus developing into carcinoma
- determine personalised surveillance and intervention.



c) Translating information on biomarkers developed in patients with advanced disease

- Circulating tumour DNA, non-coding RNA in blood, urine etc.
 - Breast
 - Colorectal
 - Pancreatic
- Current priority:
 - To detect tumour recurrence, understand drug resistance.
 - Is it feasible to extend technology into earlier diagnosis?

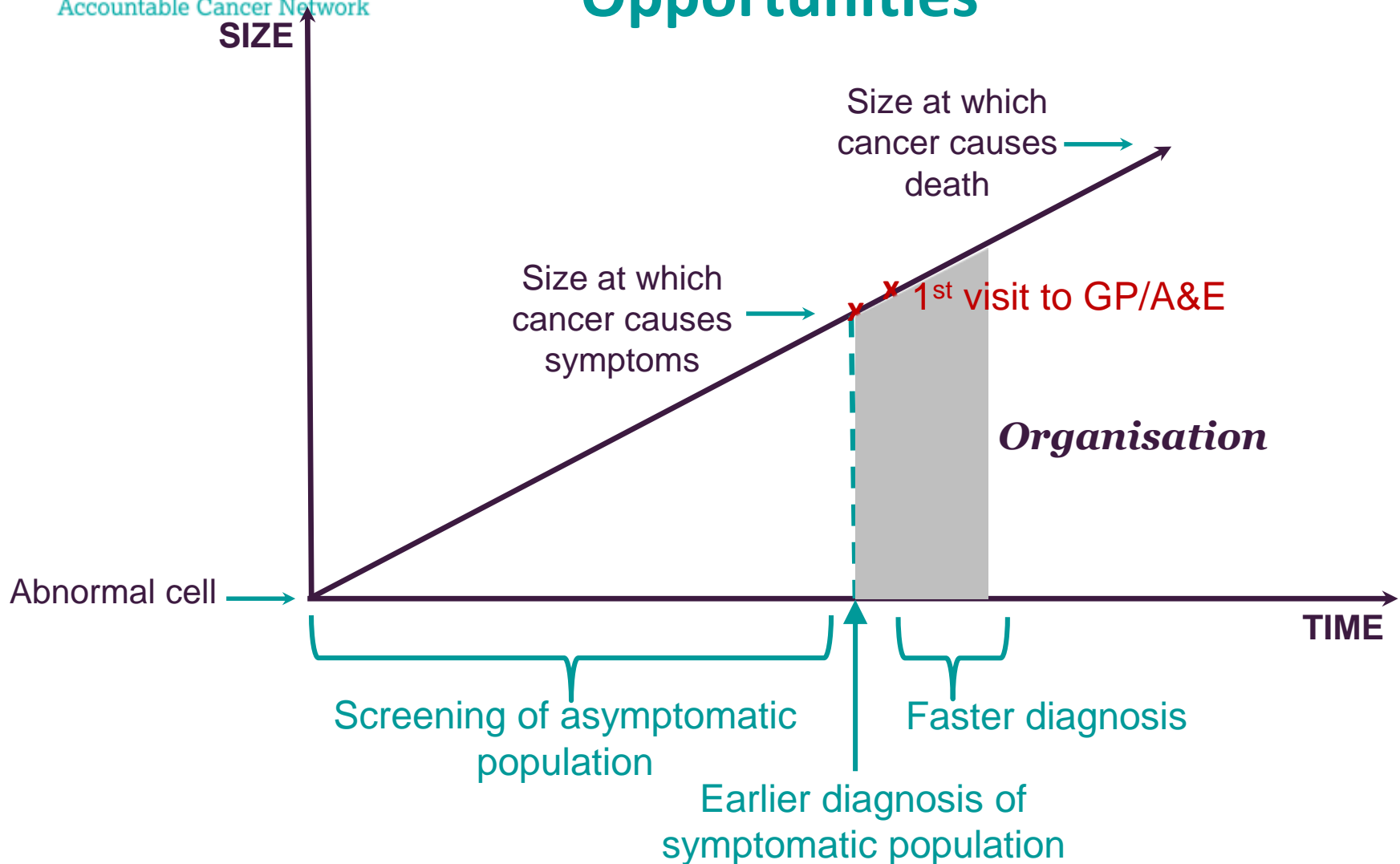
Meantime, is early diagnosis of recurrence an additional theme to exploit?



Crowley, E., et al. *Nat Rev Clin Oncol* 2013; 10(8): 472-484.

Diaz, L. A., Jr. and A. Bardelli *J Clin Oncol* 2014; 32(6): 579-586.

Cancer Challenge - Opportunities



Organisation/Faster Diagnosis

What if interpretation of diagnostic results could be accelerated/automated?



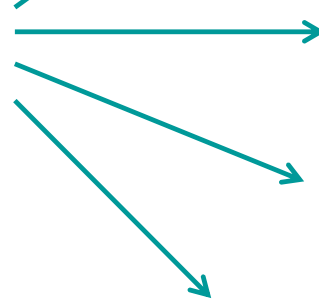
GP



What if primary care was given access to point of care diagnostics?

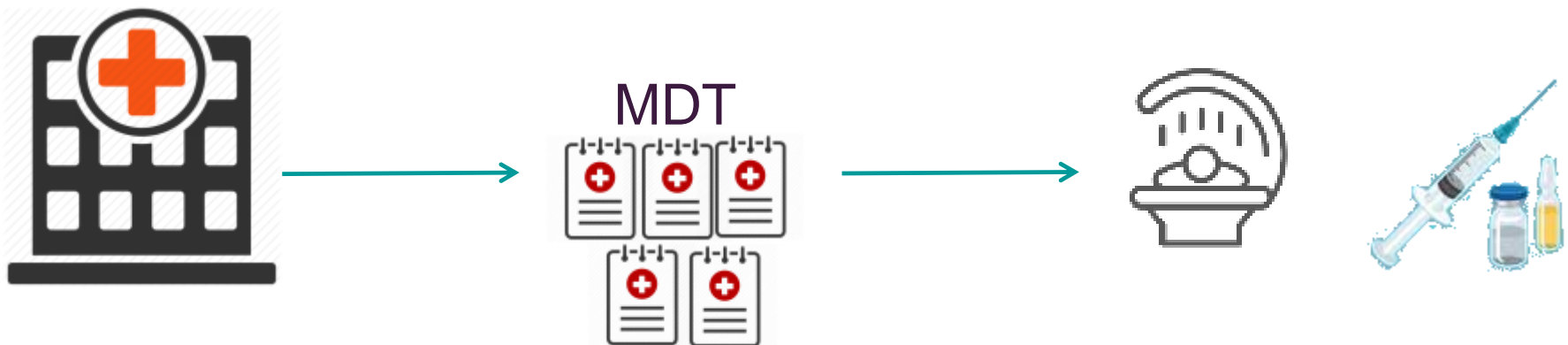


Specialist
Centre



What if new technology can combine diagnostics?

Organisation/Faster Diagnosis & Treatment



What if digital technologies could overcome these IG and IT integration issues?

What if treatment planning could be streamlined to minimise delay e.g. radiotherapy?

Key opportunities in Faster Diagnosis

Lack of efficient methods to transfer data between clinical sites

- What if digital technologies were more widely used to transfer image and lab data between clinicians

Better flow of information from pathology services to cancer specialists.

- What if digital technologies were more widely used within pathology services to enable faster diagnosis or dialogue between clinicians and patients

Lack of streamlined approaches to accelerate diagnosis

- What if key investigations were coordinated and carried out concurrently, e.g. rapid diagnostic service for breast cancer?
- What if artificial intelligence could be utilised to help improve diagnostic accuracy and speed?

- Some improvements in survival from cancer in the UK should follow from screening programmes in lung / bowel cancer
- Further progress will require risk stratification, enriching population to be screened, together with introduction of novel cancer biomarkers

- Optimisation of referral pathways, streamlining of diagnostic procedures will help in some cases
- Better use of existing technology and introduction of new technology
- **Much to do!**



SBRI Healthcare

Cancer, Earlier and Better Diagnosis and Screening

Clinical Q & A

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SBRI Healthcare Cancer, Earlier and Better Diagnosis and Screening Application process

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The application process

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Application Process

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bringing new technologies to the NHS



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Competition Now Open!

SBRI Healthcare 9 - Improve Outcomes for Older People with Multiple-Morbidities

The Small Business Research Initiative for Healthcare (SBRI Healthcare) is an NHS England initiative, championed by the newly formed Academic Health Science Networks (AHSNs), who aim to promote UK economic growth whilst addressing unmet health needs and enhancing the take up of known best practice.

SBRI FUNDING MAP

Use the map to see how the SBRI Healthcare contracts have been awarded in each AHSN area.



COMPETITION OVERVIEW

Keep up to date with developments in previous and future competitions...

FUTURE COMPETITIONS

PAST COMPETITIONS

PRESENT COMPETITIONS

Addressing functional needs in the elderly

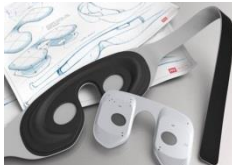
Faecal and urinary incontinence in frail elderly people

Minimising the impact of falling

Addressing functional needs in the elderly

Faecal and urinary incontinence in frail elderly people

Minimising the impact of falling



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A-0014 (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.

 [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


Active Applications

Task	Status	Actions
Download of Application Guidance	INCOMPLETE	Start
Application Summary	INCOMPLETE	Start

Members

 **Nicholas Offer** (Owner)

 [Add Member](#)

 [Edit Members](#)



SBRI Application Form

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 challenges that will be overcome. List the key technical deliverables and how they will be met. In addition, please provide a short summary of the project (500 word limit)

[Application Summary](#)

INCOMPLETE

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[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



Assessment Phase Timelines

- Close competition, noon on 4th September
- Review compliance (Early September)
- Assessment packs assigned and issued to Technical Assessors (Early September)
- Each application reviewed & scored by Technical (early September)
- Assessment of long-list applications at panel meeting involving clinical leads (mid September)
- Production of rank ordered list for interview (late September)
- Interview panels to select final winners (October)
- Draft and issue contracts (November)
- Publish contracts awarded (November)
- Feedback to unsuccessful applicants (throughout, but latest November)



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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Eastern AHSN - SBRI Healthcare National Director

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01223 257271

Joop Tanis/Chris Warwick

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