

The UK NHS: Your Partner for Innovation in Clinical Services



Department for
Business & Trade



What is happening in clinical health care?

Clinical services are changing rapidly

In response to relentless growth in demand and patient expectations and ground breaking research, services are innovating in:

- Outreach screening and education to identify more patients needing treatment
- Making diagnosis easier to access with digital apps and new diagnostic infrastructure
- Targeting diagnosis and treatment for each individual through genetic testing
- Using new pharmaceutical, surgical and medical interventions for more focused, less invasive treatment
- Remote monitoring of discharged patients to identify those that need further help

The UK's leading NHS hospitals

Working with
you

NHS experts want to work with overseas healthcare partners. We will share new ideas and solutions, offering 75 years' experience and innovation, research based clinical pathways, cutting edge science and world class training, equipment and digital systems



Recipe for success in healthcare



Why have
excellence in
healthcare?

What makes a world class clinical service?

KEY ENABLERS



Clinical leadership



Digital systems



Multidisciplinary training



Infrastructure/facilities



Initial investment



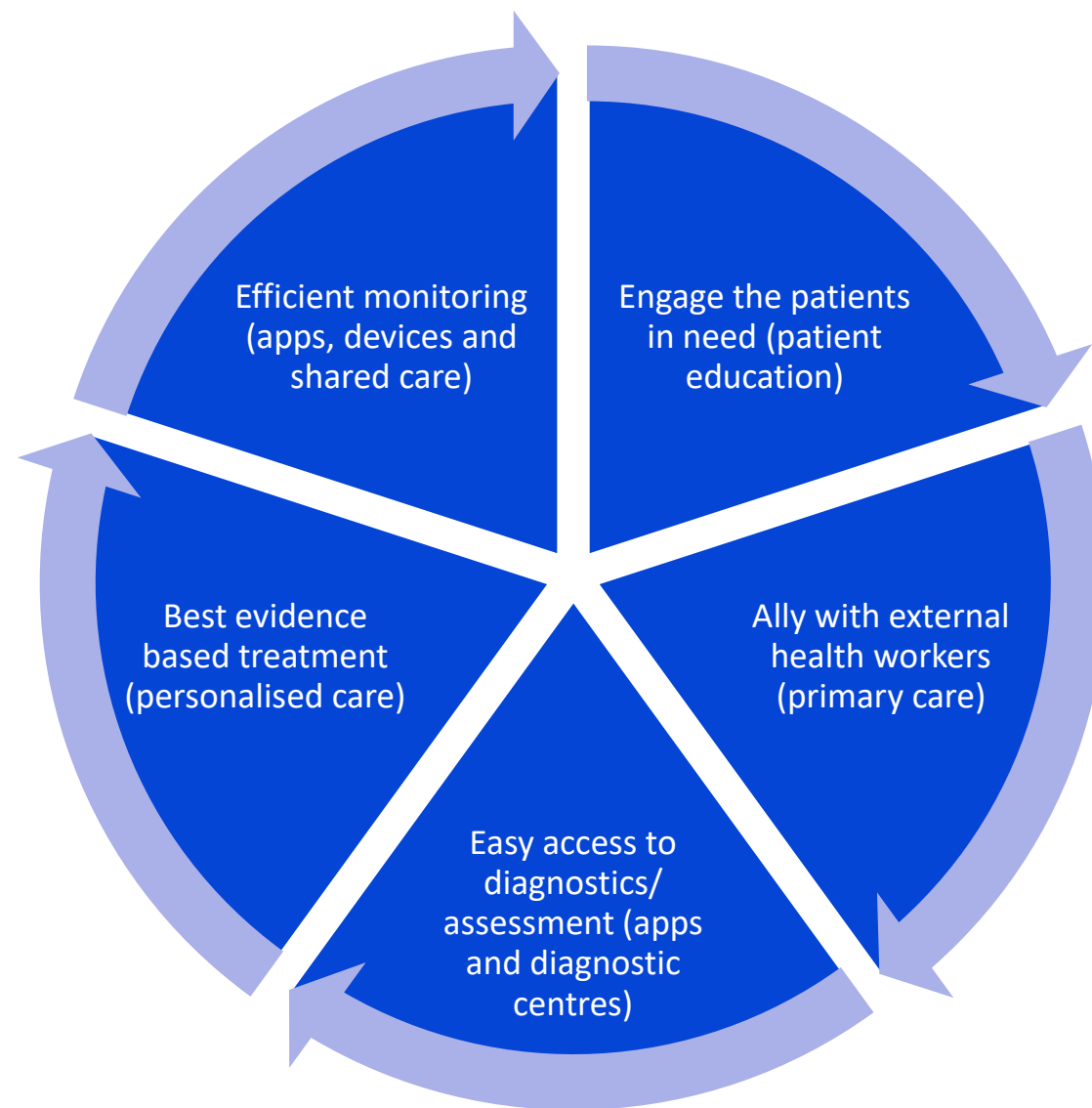
Evaluation & research



Project management



Comms and marketing



Transformation

How the NHS can help – case examples

Engage the patients in need

- NHS England: Help Us, Help You: early detection campaign 2022
- NHS England: mobile screening for liver cancer

Ally with external health workers

- RCGP: Primary care cancer and genomics toolkits

Easy access to diagnostics/ assessment

- NHS England/GSTT: rapid diagnostic centres and faster diagnosis standard; genomic testing lab hubs
- London (RMH): Clinical Genomics Service

Best evidence based treatment

- Manchester (The Christie, Manchester NHS FT): iMatch partnership for advanced therapies

Efficient monitoring

- London (GSTT): automated decisions on surveillance endoscopies
- London (RMH): genomics for disease monitoring

Example: cancer

How the NHS can help – case examples

KEY ENABLERS

-  Clinical leadership
-  Digital systems
-  Multidisciplinary training
-  Infrastructure/facilities
-  Initial investment
-  Evaluation & research
-  Project management
-  Comms and marketing

London (RMH): Leading in Cancer Care Programme

Somerset (Cancer Register): single electronic cancer record

London (NHS England): National Cancer Registration and Analysis Service (NCRAS)

Manchester (The Christie/UoM/NHSE): Genomic Medicine and Transformative Oncology & GatewayC cancer training

Manchester (The Christie): Proton Beam Therapy Centre

London (NHS England): cancer innovation fund

UK: Genome UK strategy and plans

London (Genomics England): the world's largest research data platform

S West & Central & North of England: NHS Support Units

London (NHS Trusts): consortium for international comms and marketing

Example: cancer

Do UK cancer services work well?

- Smoking rates, a major risk factor for cancer have fallen to their lowest level at 12.9% of the population in 2022 (7.3 percentage points reduction since 2011 (20.2%))
- NHS new 'one stop shops' delivered over five million checks and tests since July 2021 in 127 community diagnostic centres (CDCs) which offer MRI, CT and other services closer to patients' homes. This will rise to 160 centres and nine million additional tests and checks by 2025
- 11 Radiotherapy Networks are minimising treatment times and making state of the art methodology and equipment available to all who need them
- Promising novel drugs that are not yet fully approved are evaluated and introduced across the healthcare system benefitting over 94k people in the last seven years
- All NHS Multidisciplinary Teams provide access to genetic testing and personalised care interventions
- Stratified follow up care so those who need it most get more care provided by most NHS hospitals
- Eighteen months on from a cancer diagnosis, NHS patients rate their quality of life quite highly (74/100)
- Overall first-year survival rate has risen 9% to 74.6% (2005 to 2020); for breast cancer ~97% and for bowel cancer >80%.
- The key NHS ambitions for cancer are:
 - * by 2028, 55,000 more people each year will survive their cancer for five years
 - * by 2028, 75% of people with cancer will be diagnosed at stage one or two

Example: cancer

More detailed case examples

- **Our experience has told us that those at risk of or already suffering from cancer do not always come to us for help. How can we encourage them to do so?** In one study, before we innovated, 18% of lung cancers in people aged 55-74 who have been identified as being at increased risk of lung cancer (smokers and ex-smokers) were diagnosed at stage one and 48% stage four. After an innovative mobile screening programme, 68% of lung cancers were diagnosed at stage one and 11% were stage four. This programme is now available in 43 areas of the country
- **Our hospitals are often not the first point of contact for patients. How can we work with healthcare professionals that meet patients outside hospitals to identify patients who need to come to hospital?** For example, we found that family doctors (GPs) found it difficult to keep up to date and to know when to refer people with lung, colorectal and pancreatic cancers, lymphoma, skin and brain cancers. The introduction of suitable and accessible training changed practice in sending appropriate patients to hospital. In another example, we encouraged optometrists to make direct patient referrals to specialist neuroscience services leading to earlier diagnosis of brain and central nervous system tumours
- **How can we make it quicker and easier for patients to be identified if they are at risk or already needing treatment?** Many hospitals have found that digitally enabled pathology speeds up diagnosis; others have used combinations e.g. of MRI scans and targeted biopsies to speed up diagnosis of prostate cancer to no more than 10 days.

Example: cancer

More detailed case examples 2

Example: cancer

- **What are the newest and most cost effective medical and surgical treatments to tackle cancers and how can we make sure the treatment is right for each individual? Are we scanning for the newest ideas and applying them in our hospitals?** These might be new surgical techniques (for example, reducing oesophageal cancer through a new non-invasive procedure) or bringing the hospital together with universities and industry to scale up advanced precision therapies or introducing biosimilars to reduce pharmaceutical costs
- **How can we best stay connected with our patients after the initial treatment to ensure they stay well or find the best way to live with their disease?** We have found that providing patients with direct access to follow up help from cancer nurses, has reduced unnecessary outpatient appointments but increased access to further tests and medical assessment when needed

More detailed case examples 3

- **What is needed to make cancer care work well?** These things only work if you have creative clinical leadership (such as the Royal Marsden's Leading in Cancer Care Programme) supported by advanced training (such as The Christie's Genomic Medicine and Transformative Oncology Programme) and digital systems (such as cancer registries), cutting edge infrastructure (like new Proton Beam Therapy Centres), leading research with our universities (such as the genomics research data platform) and expert project management
- Behind this lies **an innovation programme** that promotes new research (e.g. a trial of a blood test that can identify 50 types of cancer), translates that research into best practice (for example, by a £10m innovation fund), promotes new and scaled up suppliers of new interventions (such as "clinical entrepreneurs"), enables access of new methods into the hospital (for example, by an "accelerated access collaborative" programme) and evaluates their impact (as the NHS does with the Health Data Research UK)

Example: cancer

How the NHS can help – case examples

Engage the patients in need

- London (NHS Trusts): Best for You: access to help and NHS approved apps for young people
- London (NHS England) Access to psychological therapies

Ally with external health workers

- Cambridge (CPFT): primary care mental health

Easy access to diagnostics/ assessment

- Cambridge (CPFT): first response service
- Liverpool (Mersey Care): Crisis Triage Car

Best evidence based treatment

- Cambridge (CPFT/CUH): integrated child physical and mental health service
- Northumberland (CNTW): Secure forensic centre of excellence and reach out delirium team
- Oxford/Berks/Gloucs (OH): HOPE (Healthy Outcomes for People with Eating disorders)

Efficient monitoring

- London (CNWL): recovery and wellbeing college

**Example:
mental health**

How the NHS can help – case examples

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London (Tavistock): consulting & leading programme

London (Kings Health Partners): IMPARTS tool for diagnostics across mental and physical health

Northumberland (CNTW): Respond crisis training

London (Camden & Islington): new psychiatric facility
London (Maudsley): Pears Centre for Children & YP

London (Dept of Health): Mental Health Recovery Action Plan 2021
London (Dept of Health): £150m for 150 facilities for urgent care 2023

Nottingham: Institute for Mental Health
London: (Health Data Research/Medical Research Council): DATAMIND: big data research hub

South West & North of England: NHS Support Units

London (NHS England): Help! Campaign 2022
Cambridge: CPFT: Keep Your Head: local information

**Example:
mental health**

Do UK mental health services work well?

Example: mental health

- The UK provides better than average access to specialist mental health services amongst OECD countries and has below average suicide rates (OECD iLibrary)
- 88% of people said that the person organising their care in community mental health services did so 'quite or very well' (CQC 2022)
- The UK has the world's "most ambitious talking therapy programme" (NY Times) with over 50% recovery rate
- Over 3.25m people in England accessed secondary mental health services last year, nearly a million were under 18.
- The NHS in England spent £14.3 billion on mental health services in 2020/21 - 14.8% of local NHS funding allocations (compared with 2% globally WHO)

How the NHS can help – case examples

Engage the patients in need

- London (NHSE): Healthier You: NHS Diabetes Prevention Programme
- London (Diabetes UK): Diabetes self administered risk tool

Ally with external health workers

- Portsmouth (PHT): Super Six Model of Care
- Birmingham (NHSE Midlands): ADEPT (Achieving Diabetes Care Excellence through Primary care Teams)

Easy access to diagnostics/ assessment

- Exeter (RDE): StartRight clinical diagnostic calculator app (forthcoming)
- Exeter (RDE): diagnostic calculator and app and genetic testing for precision medicine for monogenic diabetes

Best evidence based treatment

- London: King's College Hospital Centre of Excellence
- London: Chelsea and Westminster Hospital Beta Cell Centre
- Manchester (MFT): Diabetes Centre
- London (NHSE): NHS RightCare Diabetes Pathway

Efficient monitoring

- Leicester (LDC): The Diabetes Education and Self-Management for Ongoing and Newly Diagnosed (DESMOND)

**Example:
diabetes**

How the NHS can help – case examples

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Evaluation & research



Project management



Comms and marketing

London (Diabetes UK): leadership for primary care and pharmacists
London (NHSE): Diabetes Clinical Network

London (Professional Record Standards Body): The Diabetes Information Record and Self Management Standards

Cambridge (CUH): Diabetes Education Programme (CDEP)
Leicester (LDC): Effective Diabetes Education Now (EDEN)
London (RCGP): Diabetes Hub

London (UCL): Cities Changing Diabetes Programme
Hull (HUTH): Allam Diabetes Centre (2022)

London (NHSE): Diabetes Transformation Fund

London (NHSE): National Diabetes Audit Programme
London (OHID): Diabetes Footcare and CVD Profiles
London (HDRUK): Diabetes Data Science Catalyst 2022

Bristol (SCW): Transforming diabetes care pathways
London (NHSE): Diabetes treatment and care programme

London (PHE/OHID): Healthier You Campaign
London (NHSE): Language Matters – Language and Diabetes

**Example:
diabetes**

How the NHS can help – case examples

Engage the patients in need

- London (NHSE): Help Us Help You – Heart Attack Campaign
- London (NHSE): NHS Health Check focus on CVD

Ally with external health workers

- London(NHSE): CVDPrevent: Primary care Audit and QI Prog
- London (RCGP): Reducing risk in CVD eLearning programme

Easy access to diagnostics/assessment

- Northumbria (NH): use of AI to diagnose heart disease
- London (NHSE): genetic test for Familial Hypercholesterolaemia
- London (UCLH): AI supported diagnosis in MRI scans

Best evidence based treatment

- Northumbria (NH): specialist emergency cardiology service
- London (RBH): in top ten cardiology hospitals 2023(Newsweek)
- Cambridge (RPH): world's biggest DCD heart transplant centre
- Liverpool (LHCH): first use of robotic transcranial doppler (TCD)
- London (Evelina): Virtual heart to plan surgery

Efficient monitoring

- Northumbria (NH): remote monitoring of cardiac implants
- London (NHSE, British Heart Foundation); home BP monitoring
- London (Barts): post heart attack virtual monitoring
- Leicester (LUH): virtual cardiac rehab programme
- Liverpool (LUH): virtual acute heart failure ward

Example: heart disease

Do UK diabetes services work well?

- UK has lowest death rate from diabetes in OECD (except Iceland) OECD.Stat 2022
- Third lowest number of major lower extremity amputations among diabetes sufferers in European countries (n=22) 2019 Statista 2021
- By 2018, England became the first country to achieve universal population coverage with an evidence-based type 2 diabetes prevention programme, with over 1.3 million people referred in by 2023
- The NHS Diabetes Prevention Programme resulted in a 7% reduction in the number of new diagnoses of Type 2 diabetes in England between 2018 and 2019, with around 18,000 people saved the dangerous consequences of the condition [NHS England News](#)
- Completing the nine month NHS scheme reduces the chances of getting the condition by more than a third (37%) (ibid)
- In 2020/21, 86.12 percent of people with type 2 diabetes received HbA1c monitoring in England and 73.7 percent of people with type 1 diabetes and 82.6 percent of those with type 2 received checks and treatment for blood pressure Statista 2022
- Everyone living with type 1 diabetes is eligible for lifechanging flash glucose monitors on the NHS, with 3/5 already accessing them in 2022 [NHS England News](#)

How the NHS can help – case examples

KEY ENABLERS



Clinical leadership

London (British CVD Society): Emerging Leaders programme



Digital systems

London (NHSE): Cardiology Digital Playbook



Multidisciplinary training

London (HEE eLearning for healthcare): CVD Toolkit Programme
London: (Heart UK NHS AAC AHSNs): Tackling Cholesterol Together



Infrastructure/facilities

Cambridge (Papworth): new hospital on Biomedical Campus
Newcastle (NUTH): Children's Heart Centre
London (Barts): Heart Centre



Initial investment

London (NHSE): 2019 GP contract to increase CVD detection
London (AHSNs): Pathway Transformation Fund for Lipid Optimisation



Evaluation & research

Warwick (NHS A&GEM CSU): National Institute for CV Outcomes Research
London (OHID): CVD Profiles
London (NIHR): Clinical Research Network CVD Group



Project management

Bristol (SCW): BP checks in community pharmacies
London (NHSE): CVD Prevention Post Covid Recovery Programme



Comms and marketing

London (NHSE): Personalised CVD risk report for the NHS Health Check
London (PHE/OHID): National Better Health Campaign

Example: heart disease

Do UK CVD services work well?

Case example: CVD

- The UK has below average death rate from CVD in OECD and beyond (out of 50 countries) Source OECD.Stat 2022
- Premature CVD death rates in England have fallen 80% over the last 40 years largely thanks to research, advances in treating conditions like heart attack and stroke and the decline in smoking, as well as lifestyle changes
- Mortality rates for coronary heart disease have reduced by 60% since 2000
- Smoking rates, a major risk factor for heart disease have fallen to their lowest level at 12.9% in 2022
- Nearly 1.5 million people have the NHS Health Check each year
- NHS new 'one stop shops' delivered over five million checks and tests since July 2021 in 127 community diagnostic centres (CDCs) which offer MRI, CT and other services closer to patients' homes. This will rise to 160 centres and nine million additional tests and checks by 2025
- Patients per 100,000 needing hospital admissions for heart disease have reduced by over a third since 2003
- NHS ambitions for CVD prevention by 2029:
 - 85% (up from 79% in 2019) of the expected number of people with Atrial Fibrillation (AF) are detected
 - 90% (from 84%) of people with AF who are known to be at high risk of a stroke to be adequately anticoagulated
 - 80% (from 57%) of the expected number of people with high BP are diagnosed
 - 80% (from 56%) of the total number of people diagnosed with high BP are treated to target as per NICE guidelines
 - 75% (from 49%) of eligible people have received a formal validated CVD risk assessment and cholesterol reading
 - 45% (from 35%) of people identified as having a 20% plus 10-year risk of developing CVD are treated with statins
 - 25% (from 5%) of people with Familial Hypercholesterolemia (FH) are diagnosed and treated according to the NICE FH Guideline (by 2024)

How the NHS can help – case examples

Engage the patients in need

- England: multiple access points: pharmacy, GP, telephone (111) and web (111.nhs.uk)
- England: Get the Help You Need campaign
- England: NHS Community Pharmacy Consultation Service
- Yorkshire (Modality): pop up clinics in deprived areas

Ally with external health workers

- England: GPs with Extended (Specialist) Roles
- England: Shared Care Protocols for certain medicines
- London: (NL ICB): digital advice for GPs (Consultant Connect)

Easy access to diagnostics/ assessment

- England: NHS cervical screening programme
- England: electronic cancer decision support tools for GPs
- England: NICE Clinical Guidelines
- London (DMC): Telederm skin disease assessment
- England: 40 – 74 NHS Health Check for diabetes, heart and kidney disease and stroke and dementia

**Example:
primary care**

How the NHS can help – case examples

Example: primary care

Best evidence based treatment

- England: case management registers for 19 conditions
- England: specialist services e.g. for psychological problems, drug and alcohol misuse, homelessness
- Brighton (Here): integrated MSK service
- England: social prescribing of non-clinical services e.g. exercise

Efficient monitoring

- England: Specialist Pharmacy Service: medicines management guidance
- England: House of Care framework for long term condition care
- Yorkshire (Healthcare First): home monitoring for heart disease

How the NHS can help – case examples

KEY ENABLERS



Clinical leadership



Digital systems



Multidisciplinary training



Infrastructure/facilities



Initial investment



Evaluation & research



Project management



Comms and marketing

London (RCGP): GP Leadership Capabilities Framework and Resources
London (Faculty of Medical Leadership): Coaching for GP leadership
Gloucestershire: Primary Care Training Hub

London (NHSE): Digital First Primary Care
London (NHSE): Primary Care Digital Services Operating Model
London (NHSE): GP Inclusive Access Toolkit
London (Hurley Group): eHub online consultations
Buckinghamshire (Operose Health): Dr iQ, digital front door

London (RCGP): Multidisciplinary Team Working toolkit
North East (HEE eLearning): New Roles in Primary Care Toolkit
London (AT Learning): EZ programmes

London (Camden Integrated Care Partnership): Kentish Town Health Centre
Coventry (CHP): Foleshill 1st UK Passivhaus (~net zero) healthcare centre
Yorkshire (Haxby): Kingswood, Orchard Park and Newington surgeries

London (NHSE): 2019 GP contract to increase CVD detection
London (NHSE): £300m Investment & Impact Fund: incentives for better care
London (NHSE): £250m Winter Access Fund 2021

Keele (NIHR): School for Primary Care Research
Dundee (NHS Research Scotland): Primary Care Network
London (OHID): National General Practice Profiles

Bristol (SCW): new models of primary care
Durham (NECS): digital consultations in primary care
London (AT Medics) & Northumbria Primary Care: innovation in practice systems

London (NHSE): General practice communications toolkit
Leeds (Health & Care Partnership): Primary care crisis communications
Yorkshire (Primary Care Direct): Patient Comms & Engagement

Example:
primary care

Do UK primary care services work well?

- 100% of the UK population has access to core health services via primary care
- In a normal year, 1.2 million health checks are carried out
- 75% of the population are satisfied with the availability of quality health care (OECD 2019 average is 71%)
- Population health status is close to the OECD average (2019)
- Amenable and preventable mortality rates are below European averages (2016) (European Observatory)
- Most patients (83.0% in 2021, 72% in 2022) rate the overall experience of their GP practice as good (GP surveys)
- 93% say they had confidence and trust in the healthcare professional they saw (2022 survey)
- Over nine in ten (93%) found the condition management plan, agreed with a health professional (very or fairly) helpful in managing their condition(s) (2022 survey)
- Over half (55%) had used online GP services (2022 survey)
- The UK spends above the average on primary care as a proportion of health spend at 14% (OECD 2019 figures). The UK is committed to increasing this proportion in the five years to 2023/24, including expansion of primary medical and community health services (NHS Long Term Plan 2019)
- In a comparison of health care in 11 developed countries in 2020, the UK succeeded on universal coverage, access to services, comprehensiveness and affordability of services, excellent primary care and long-term care coordination and innovation (Which country has the world's best health care? Prof Ezekiel J Emanuel)
- Primary care saves lives: people who have primary care physicians tend to have better health care, receive timelier diagnoses and get more prompt treatment when it is needed. Reliable access to primary care has been linked to better patient outcomes overall. A 2021 US study from Harvard Medical School shows that increasing the number of primary care physicians could lead to boosts in life expectancy and result in fewer deaths in currently underserved areas across the United States (<https://www.acpjournals.org/doi/10.7326/M20-7381>); see also, Health Affairs July 2022

NHS Innovation System



From idea to patient outcomes

- Health Economics Unit
- NHS Strategy Unit

Evaluate innovation

Promote research

- National Institute for Health & Care Research (NIHR)
- Genomics England

Research infrastructure

- Health Data Research UK (HDR)
- UK Biobank

Innovation for excellent clinical services

- Accelerated Access Collaborative
- Academic Health Science Networks (AHSNs)

Accelerate NHS access to innovation

Translate research to clinical practice

- National Institute for Health and Care Excellence (NICE)
- Medicines and Healthcare products Regulatory Agency (MHRA)

Promote start-ups

- NHS Innovation Accelerator
- NHS Clinical and Patient Entrepreneurs Programmes CEP

Working with:

- UK Research and Innovation, Universities & Catapults, Industry Bodies & Charities and Investors

From idea to patient outcomes



Health Economics Unit

NIHR | National Institute for Health and Care Research



HDRUK
Health Data Research UK

**ACCELERATED
ACCESS
COLLABORATIVE**

biobank^{uk}
Enabling scientific discoveries that improve human health

**Health
Innovation
Network**

NICE National Institute for Health and Care Excellence



**NHS
Innovation
System**

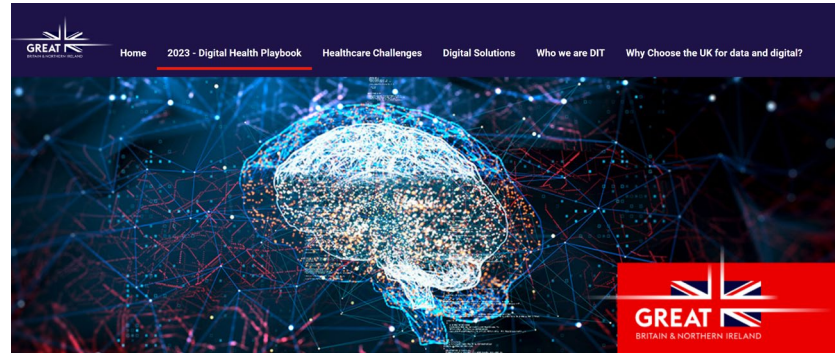
NHS
The **AHSN** Network England
NHS Innovation Accelerator

**NHS CLINICAL
ENTREPRENEUR
PROGRAMME**

Medicines & Healthcare products Regulatory Agency

The UK's offer in Genomics, Digital Health, Health Systems Strengthening, MedTech and One Health

NHS Innovation Partnerships with the Private Sector



[Digital Health Playbook](#)

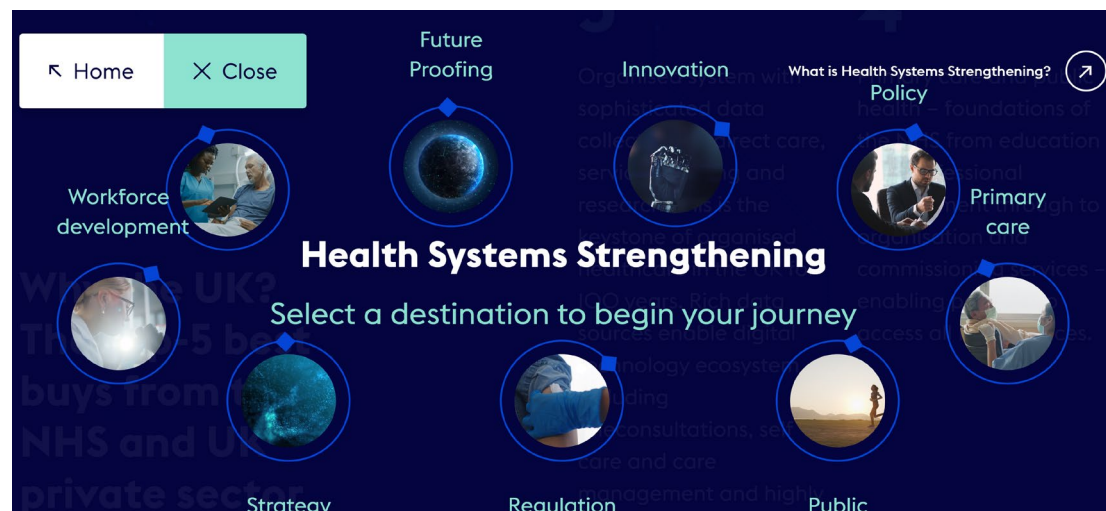


[UK Genomics Spotlight](#)



[The Super Six MedTech](#)

[Discover Health Systems Strengthening](#)



[One Health](#)



Department for
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GREAT

BRITAIN & NORTHERN IRELAND

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