

HDRUK
Health Data Research UK



**INDUSTRIAL
STRATEGY**

UK Research
and Innovation

An introduction to the Innovation Gateway Technology Partnership

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October 2019



**Our mission is to unite the UK's health data to enable
discoveries that improve people's lives**

Where this all started...

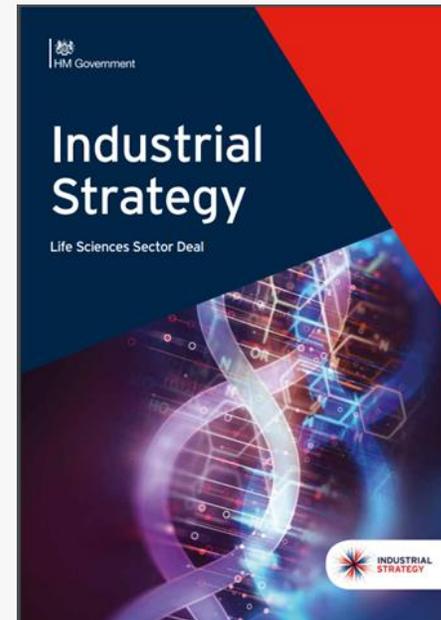
Funded as part of the Industrial Strategy Challenge Fund (ISCF) *Data to Early Diagnosis and Precision Medicine Challenge*

Industrial Strategy for Life Sciences (November 2017) Hubs for health data research (*digital innovation hubs*)

Health Data Research UK asked to lead delivery of this programme on behalf of UK Research and Innovation in September 2018

Ensure that the enormous potential value of the UK's health data assets can be realised

Four-year programme launched in September 2018



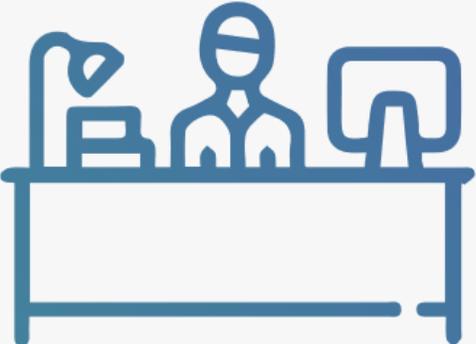
Infrastructure – uniting the UK’s health data

Ambition: We will create a world-leading data infrastructure and UK-wide approach to secure data services to accelerate scientific research and digital innovation

Priorities:

- Establish an ecosystem of Health Data Research Hubs
- Develop an Innovation Gateway to provide safe and secure access to UK’s health data
- Establish the UK Health Data Research Alliance
- Maximise the impact and learning from the Sprint Exemplar projects
- Enable proportionate, rigorous, efficient and transparent information governance across the UK Health Data Research Alliance
- Facilitate fair capture of value by the NHS and government for the benefit of patients and UK tax payer

We're working in partnership with patients, the NHS, universities, business & charities to create a world-leading and robust health data infrastructure

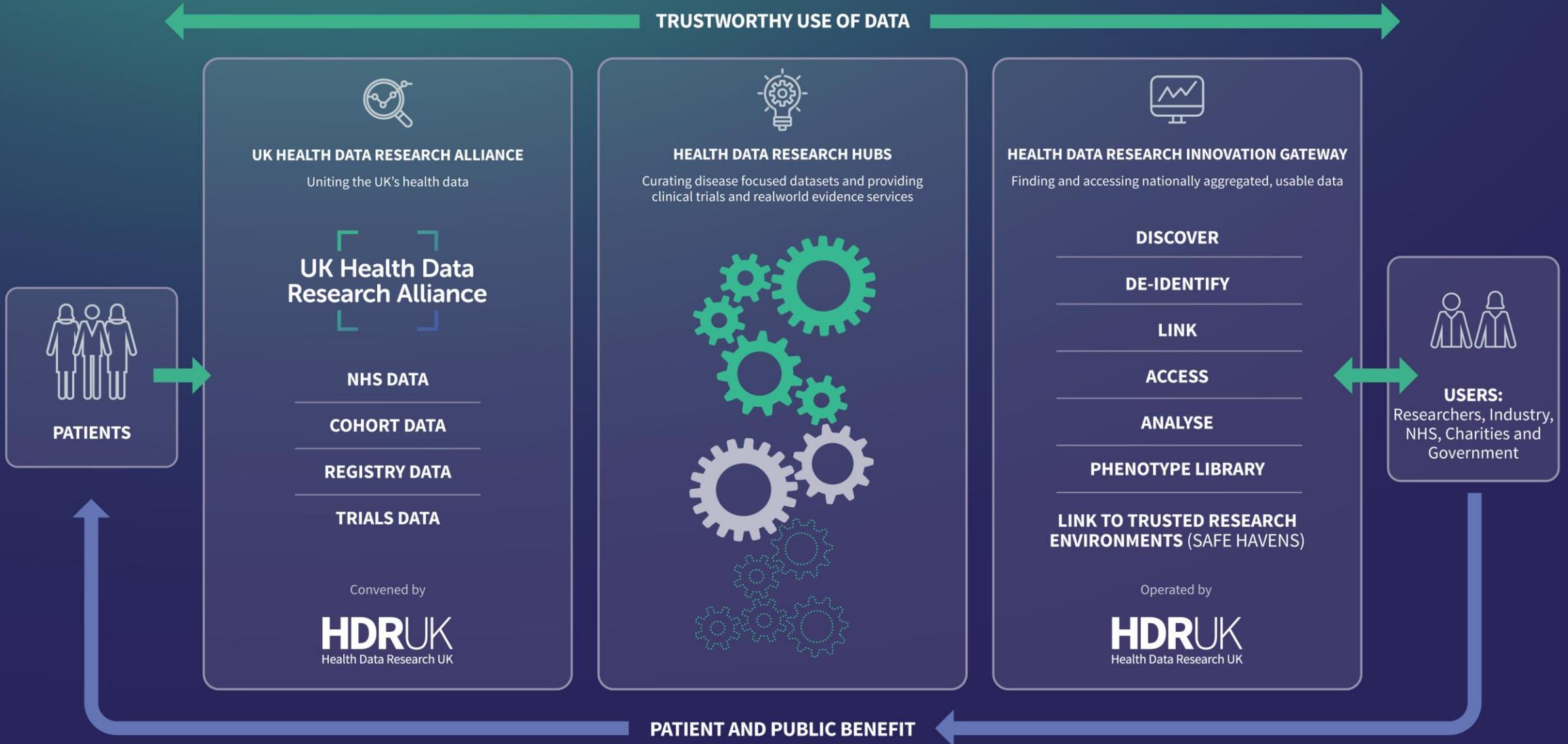


We're gearing up the UK for quality health care, research and innovation

We're enabling data science and innovation as a catalyst for change

But with big data comes with big responsibilities!

UNITING THE UK'S HEALTH DATA TO MAKE DISCOVERIES THAT IMPROVE PEOPLE'S LIVES



UK Health Data Research Alliance

An alliance of leading healthcare and research organisations united to establish best practice for the ethical use of UK health data for research at scale.

Established in February 2019

18 current members, more expected to join the coming months

<p>National bodies: Genomics England, Health and Social Care Northern Ireland, NHS Digital, NHS England, NHS Scotland, NHS Wales, NHSX, Public Health England</p>	<p>NHS trusts: Barts Health, University Hospitals Birmingham, Nottingham University Hospitals</p>
<p>Members</p>	
<p>Charities: The Brain Tumour Charity, Cystic Fibrosis Trust,</p>	<p>Research Cohorts: Clinical Practice Research Datalink, Healthcare Quality Improvement Partnership (HQIP), NIHR Bioresource, Royal College of General Practitioners Research and Surveillance Centre, UK Biobank</p>



UK HEALTH DATA RESEARCH ALLIANCE
Uniting the UK's health data

UK Health Data Research Alliance

NHS DATA

COHORT DATA

REGISTRY DATA

TRIALS DATA

Convened by



What we heard



The UK has **good health data resources**, but these can be **difficult to identify and access**



Data research and innovation takes place outside of the UK because of the **difficulty in working with UK data**



Members of the public support research using health data, where this is **transparent and leads to benefits to the NHS**

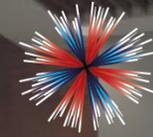


We need to be **clear and concise** on the benefits, risks and how these will be managed



We need to **involve patients and the public** throughout the process

HDRUK
Health Data Research UK



**INDUSTRIAL
STRATEGY**

UK Research
and Innovation



Bringing benefits to all



For researchers

Faster, more accurate and less expensive research and development



For clinicians and patients

Identification of new medicines, treatments and technologies



For businesses large and small

To better develop, test and deploy new products, devices, tools and AI technologies in health and care earlier



For society

Creating jobs, generating investment, improving health services

Public and Patient Involvement & Engagement

HDR UK is committed to earning, building and sustaining the trust and confidence of people who are producers and consumers of data and the users of the health and care system.

The needs, interests and values of patients and the public should shape the quality of the health data research.

This requires state-of-the-art approaches to engagement and involvement of patients and the public at every stage of the innovation pathway. All partners and suppliers involved in the DIH Programme are expected to support this commitment by demonstrating how patients and the public will be involved in informing the direction, planning and delivery of projects and services.



Health Data Research Innovation Gateway

The Gateway is a common access point to UK health research data for accredited researchers and innovators developed in 2 phases:

Phase 1 (Minimum Viable Product) – Sep 2019 to Jan 2020

Portal (Discovery and Access) – developed by IBM

Metadata catalogue – delivered by NHS Digital and University of Oxford

Metadata curation and onboard – delivered by Parity and MetadataWorks

Phase 2 – Apr 2020 to Aug 2022

Technology Partnership – specification released 16th October 2019

Functionality (1)

Phase 2 of the Gateway development and operation is envisaged to provide the following functionality as a minimum. The required functionality will evolve during the development.

1. Metadata onboarding:

- Provide a self-service mechanism to allow Alliance members to update or onboard new metadata and self-service dashboards to help verify metadata imports
- Onboarding of existing metadata

2. User-friendly discovery portal: Allow users to discover Alliance datasets (including those developed by the Hubs), create high-level metrics and aggregate reports from the metadata through a suitable front end that meets user requirements (including semantic search and support for cohort building) and also provides tools to support analysis of dataset quality and identify novel linkage options and associated risk.

3. Harmonised Access Request Management: Provide an access request functionality and harmonised workflow management across custodians to improve response times for access decisions by custodians and provide reports on requests, turnaround times and use.

Functionality (2)

4. **Trusted Research Environment (TRE) integration and tool repository:** Integrate between the Gateway and the TREs and provide federated access to datasets held across TREs.
5. **Infrastructure as a service:** Provide a common interface to support the provisioning of workloads into TREs
6. **Dashboard, user reporting, logging and metrics:** Provide a customisable, user friendly dashboard for user activity and access management performance and dataset usage. Enable the collection of usage metrics to allow analysis of patterns of use, identify gaps in data and datasets and support future research and innovation investment decisions. Build and validate analytic reports on Gateway data.
7. **Analytics and phenotype libraries:** Provide libraries in the Gateway that are repositories for artefacts such as reusable or shareable analytics, linkage maps and to deliver the infrastructure to support an extensible human phenotype library.

HDR UK Development Principles

- ✓ **Patients, the NHS and public centred**
- ✓ **User-design led**
- ✓ **Agile development**
- ✓ **Open first**
- ✓ **Modular and extensible**
- ✓ **Cloud first**
- ✓ **Reuse**
- ✓ **Build in the 'ities' from Day One**

Development Milestones

- Milestone 1a: Complete the rapid development task (20 March 2020)
- Milestone 1b: Contracting complete and commence Gateway development (30 April 2020)
- Milestone 2: Complete Gateway 1.0 (31 October 2020)
- Milestone 3: Complete Gateway 2.0 (30 April 2021)
- Milestone 4: Complete Gateway 2.1 (31 October 2021)
- Milestone 5: Complete Gateway 2.2 (30 April 2022)

Operational Requirements

Service Level Agreement	Service Level
Operational hours	24x7x365
Business support hours (service support hours)	9-5 Mon-Fri (excluding Bank Holidays)*
Planned maintenance downtime	Outside of Business Support Hours
Availability (in business support hours)	99.50%*
Unplanned downtime (mins per month)	58 minutes
Times to resolve	
Incident resolution times (in business support hours):	
Sev1 (loss of system or major function affecting multiple users, no workaround)	4 hrs
Sev2 (loss of major function affecting single user, or major function with workaround)	8 hrs
Sev3 (minor functional impact)	24 hrs (Mon - Fri 9-5 ex BH)
Sev4 (no impact on function)	72 hrs (Mon - Fri 9-5 ex BH)
- Resolution may be provision of workaround or fix.	
Problem fix times	
Sev1	30 working days or an agreed release
Sev2	60 working days or an agreed release
Sev3	120 working days or an agreed release
Sev4	240 working days or an agreed release
RTO - Recovery Time Objective Maximum expected recovery time following a service outage	24 hours
RPO - Recovery Point Objective. Maximum expected data loss for customer	24 hours

Key Dates



16 October 2019	OJEU contract notice posted requesting expressions of interest through Standard Selection Questionnaire
12pm, 8 November	Deadline for questions on expression of interest
12pm, 15 November	Deadline for submission of Standard Selection Questionnaire
22 November	Request for proposal issued
12pm, 6 December	Deadline for questions on request for proposal
12pm, 13 December	Deadline for proposal submission
7 January 2020	Invite to interview (no more than six respondents)
15 January	Interviews
17 January	Shortlisted candidates notified (no more than three)
24 January	Contracts for rapid development task signed
27 January	Rapid development task commences
20 March	Rapid development task completed
27 March	Partner selected
17 April	Contract for Phase 2 support signed
30 April	Development commences

Response Limits and Score Weighting

Section	Sub-Section	Limit	Maximum score
Non-Assessed Section	1.1 Lead organisation	2 pages	N/A
	1.2 Consortium members	1 page per member	N/A
	1.3 Public description of partnership and proposed solution	250 words	N/A
Eligibility Section	2.1 Alignment with HDR UK development principles	600 words	N/A
Scored Section	3.1 Technical quality	1500 words	25 points
	3.2 Usability of the end product and user experience	1500 words	20 points
	3.3 Operation and continuous improvement	800 words	25 points
	3.4 Patient and public involvement and engagement	600 words	15 points
	3.5 Ability to meet timescales, problem solve, develop in an agile way and work with HDR UK and partners	1000 words	25 points
	3.6 Value for money	600 words	25 points
Additional Material	High level design diagram	1 page	N/A (assessed in 3.1)
	Portal Home screen wireframe	1 page	N/A (assessed in 3.2)
	Metrics dashboard wireframe	1 page	N/A (assessed in 3.2)
	CVs of key team members	1 page per CV (Maximum of 6 CVs)	N/A (assessed in 3.5)
	Project Plan (e.g. Gantt chart)	2 pages	N/A (assessed in 3.5)
	Risk Register	2 pages	N/A (assessed in 3.5)
	Heads of Terms (if consortium application)	6 pages	N/A (assessed in 3.5)
	Financial Template	Template provided at Request for Proposals stage	N/A (assessed in 3.6)

Rapid Development Phase



- **Final selection from up to 3 potential suppliers**
 - Development of an aspect of the Gateway
 - Common task for all suppliers
 - Flat level funded activity
 - Will require capability to show design, ux, back-end engineering and agile delivery
- **Demonstrate technical capability to deliver**
- **Demonstrate cultural fit of partnership**

Expressions of interest

- Those interested in applying to undertake this work must complete the Standard Selection Questionnaire, returning this to procurement@hdruk.ac.uk by 12pm on 15 November 2019.
- The questionnaire template can be accessed on the HDR UK website www.hdruk.ac.uk/gateway-development-phase-2
- Questions on the Expressions of Interest process should be sent to procurement@hdruk.ac.uk
- Anonymised questions and answers will be posted on www.hdruk.ac.uk/gateway-development-phase-2
- The deadline for questions is 12pm on 8 November 2019.

Thank you

Find out more:

Health Data Research UK

Web: hdruk.ac.uk

UK Health Data Research Alliance

Web: ukhealthdata.org

Social: @HDR_UK

Email: enquiries@hdruk.ac.uk