

Job description and person specification

Post:	Chief Data Officer
Location:	Flexible. Primary base could be anywhere in the UK, but must be willing and able to travel to London and elsewhere (mainly UK) in connection with the role
Salary:	From £110,000, subject to skills and experience
Duration:	Permanent
Reporting to:	Director of Strategy

About Health Data Research UK

Health Data Research UK (HDR UK) is accelerating trustworthy use of health data to enable discoveries that improve people's lives.

We are the national institute for health data science. Our vision is for large-scale data to benefit every interaction with patients, every clinical trial and every biomedical discovery, and to transform public health.

The UK is in a unique position to realise the potential of health data, thanks to the NHS and its cradle-to-grave records for a population of over 65 million people.

Safe and secure use of this data could improve treatments, deliver better health care and save lives. It could help tackle some of the biggest health challenges worldwide, including cancer, diabetes and cardiovascular disease.

However, access to this data for researchers is often a lengthy, fragmented process, meaning the potential for improving healthcare is far from being realised in full.

We work in partnership with the NHS, industry, charities and universities to realise the potential of the UK's health data in life-changing research. Patients and the public are actively involved in shaping HDR UK's work and ensuring it delivers public benefit.

The Institute played a major role in the COVID-19 pandemic, working with the NHS and collaborators internationally to link and coordinate the use of large-scale data. With these resources, scientists and doctors could understand more about this new disease, identify which drugs were effective and provide evidence to allow the NHS and policymakers to respond to the challenge.

HDR UK is a virtual institute, with staff and partners in all four nations of the UK and an office in central London. We are an independent, registered charity, established in 2016, with core funding (next review 2029) from nine of the UK's leading medical research funders, including UK Research and Innovation, the Department of Health and Social Care in England and equivalents in Northern Ireland, Wales and Scotland, and leading medical research charities.

At HDR UK, we employ talented individuals who bring their own unique skills and experience to support the Institute's vision and benefit the whole team. Our values of transparency, optimism, respect, courage and humility guide how we work together within HDR UK, with our partners and other stakeholders.

HDR UK's strategy

Our five-year objectives are to:

1. Accelerate trustworthy data use by sorting the data

- Make it easier and quicker for researchers to find, access and use high-quality, large-scale data
- Fix the technical challenges needed for swift, safe and secure data use, by assembling innovative infrastructure solutions
- Increase health research efficiency and productivity by accelerating adoption of the FAIR (Findable, Accessible, Interoperable and Reuseable) data principles

2. Improve people's lives by unlocking the power of data

- Deliver cutting-edge research that harnesses large-scale data to change health policy and practice
- Exemplify trustworthy data use to deliver research that was previously impossible
- Test and improve the infrastructure so it serves all researchers

3. Shape the future of health data research

- Connect data, people and organisations to bring about cultural change and realise the UK's potential to be at the forefront of health data innovation
- Develop people and teams with diverse perspectives and skills needed to deliver health data research
- Embed good practice in patient and public engagement and involvement to build confidence in health data research for public benefit by increasing transparency and trustworthiness.

Recent Impacts

- A Trusted Research Environment (TRE) for England was created early in the pandemic with health data covering >54 million people, thanks to a collaboration between NHS Digital and HDR UK through its British Heart Foundation (BHF) Data Science Centre. TREs are highly secure computing environments that provide remote access to health data.
- During the roll out of the Pfizer-BioNTech and Oxford-AstraZeneca vaccines against Covid-19, it was vital to understand how they performed in the population. A team supported by HDR UK through the BREATHE Health Data Research Hub were able to rapidly show the high protection offered by the vaccines after a single dose, thanks to assembling linked health data for 99% of the Scottish population.
- Nearly half a million people missed out on starting medication to lower their blood pressure during the Covid-19 pandemic, according to research enabled by the BHF Data Science Centre at HDR UK. The research included 1.32 billion records of medications dispensed to 15.8 million people in England, Scotland and Wales between 1 April 2018 and 31 July 2021.
- The Green Algorithms initiative promotes more environmentally sustainable computational science and is run by Loïc Lannelongue and Michael Inouye at HDR UK Cambridge. They have built tools for carbon footprint estimation, raised awareness about the environmental impacts of algorithms and driven change in the computational science community.
- A significant landmark early in 2024 saw the first research study of health records for 67 million people in all four UK nations. It looked at gaps in Covid-19 vaccine coverage and found that between a third and

a half of the populations of the four UK nations had not had the recommended number of vaccinations and boosters by summer 2022. The approach could be extended to many other areas of medicine with great potential for new discoveries in the understanding and treatment of disease.

Purpose of the post

HDR UK seeks an exceptional Chief Data Officer to provide visionary leadership at the forefront of data-driven discovery. This new senior role will shape and deliver HDR UK's data strategy and approach to AI enabled innovation by ensuring that HDR UK's infrastructure, technologies, and platforms not only meet the evolving requirements of researchers, clinicians, and innovators, but also set the standard for excellence in health data science. As a member of the Senior Leadership Team, the Chief Data Officer will define and drive a bold vision for how data can accelerate research, improve health, and realise HDR UK's mission. Central to the role will be forging deep collaborations with UK-wide and international data partners, inspiring a culture of openness and innovation, and ensuring that the UK continues to lead globally in harnessing health data for scientific discovery and societal impact.

Main responsibilities

a) Data Strategy & AI

- Define and lead HDR UK's data strategy, ensuring alignment with UK-wide health and research priorities and positioning health data as core to Institute delivery, while driving prioritisation based on researcher requirements.
- Work across the Institute and with data partners to ensure that HDR UK supports and positions the UK at the forefront of trustworthy AI innovation.
- Champion FAIR (Findable, Accessible, Interoperable, Reusable) and trustworthy data principles across partners and platforms.
- Lead on data strategy risk management; put in place processes that identify and document data risks across the organisation and embed them into wider governance processes.

b) Data Science, Data Engineering & Technical Innovation

- Lead the development and delivery of HDR UK's core data products and services, in alignment with HDR UK supported infrastructure, including metadata catalogues and common data models (required, for example, for federated analytics capabilities and cohort discovery).
- Support the development and adoption of data standards and phenotype definitions for large-scale health research to harmonise how health data are collected, represented, and exchanged – aligning efforts across the breadth of HDR UK and with external partners.
- Work closely with the Chief Technology Officer to support the data strategy underpinning our software products, services and associated dashboards.
- Advance reproducible, open and secure data science approaches that enable population-scale and advanced analytical research requiring complex multimodal data, over-time.
- Recommend open data technical standards and terminologies for use across the Institute and in alignment with partners, weighing the impact of variables including privacy, security, compliance, ownership, and performance questions.
- Provide input to teams across the Institute on database and data warehouse optimisation.
- Enable the application of cutting-edge analytical methods including AI, machine learning and causal inference through secure use of high-quality data assets.
- Work with the Institute's Legal, Trust and Ethics team to ensure robust data governance, privacy-preserving technologies, and security frameworks are in place, with ongoing public input.

c) Ecosystem and Partnership Development

- Engage with key stakeholders across the UK and internationally, including NHS organisations, regulators, data custodians, patient groups, research funders and commercial partners to foster collaboration, innovation and alignment.
- Identify underlying causes of data challenges faced by health research users and innovators and make strategic recommendations to resolve them.
- Build trust by ensuring transparency, public engagement, and robust governance over data access and use.
- Work closely with the data standards ecosystem and UK Health Data Research Alliance to drive adoption across the health data ecosystem.
- Represent HDR UK's data leadership nationally and internationally, contributing to standards bodies, policy, regulatory, and ethical frameworks.

d) Aligning data products & services to user-needs

- Ensure that cutting edge data services provided by HDR UK respond to a range of researcher and innovator needs, working with teams across the Institute.
- Translate the needs of users into requirements or specifications to be delivered by either the CDO or wider HDR UK teams (themselves potentially working in partnership with external service providers). Ensure the user voice directly informs our data and data technology planning, and the strategy for sourcing both.
- Implement strategies to improve data discoverability, quality, linkage, interoperability, and usability at national scale. Ensuring data can be easily used, reused and shared by those who need it relying on HDR UK products and services.
- Provide thought leadership on a sustainable data product and service portfolio.

e) Leadership and Team Development

- Lead and engage with a multi-disciplinary team of data architects, engineers, scientists, and programme leads, managing complex interfaces to underpin matrix-delivery across the Institute.
- Foster a high-performance, inclusive culture committed to collaboration, continuous learning, innovation, and public benefit.
- Serve as a member of the HDR UK Senior Leadership Team, contributing to organisational strategy, performance, and delivery.
- Work in partnership with technologists and data infrastructure specialists across the Institute and with a range of external partners.

Experience/Skills/Knowledge

- A track record of technical engagement with (academic and commercial) data systems at significant scale and complexity.
- The ability to lead discussions on technical issues of ontologies, data management and data standards with specialists in their fields.
- Strong understanding of data governance, data science and analysis, data engineering, data quality, and data security best practices.
- Knowledge of common data models, metadata standards, Electronic Health Record (EHR) vocabularies and phenotype definitions/coding commonly used in health research.
- Experience of supporting large-scale databases or data warehouses for different use cases.
- Ideally experience in specifying and building AI systems relevant to biomedicine and/or healthcare, such as overseeing the implementation of and preparing data for advanced analytics techniques, such as machine learning and predictive modelling.
- Practical experience in managing the risks of software development in complex institutional contexts.

- A track record of working with data in multi-disciplinary teams evidencing inspiring leadership and delivery across complex ecosystems.
- Excellent stakeholder management skills with experience of working with, and commanding the confidence of, a diverse set of external stakeholders through complex and contentious issues.
- Experience in working at the highest level in partnership, with health, social care, policy, government, industry and third sector organisations at scale.
- Strong understanding of data governance, data science and analysis, data engineering, data quality, and data security best practices
- Demonstrable intellectual credibility, analytical capability with the ability to think strategically and take a broad view of issues, events and activities and understand their likely impact or wider implications
- Demonstrable ability to develop quickly a comprehensive and sophisticated technical knowledge and understanding of the areas in which HDR UK operates. Knowledge of data management technologies and tools, including data lakes, data warehouses, and data visualization platforms.
- Experience overseeing the implementation of advanced analytics techniques, such as machine learning and predictive modelling.
- Exceptional communication skills with a proven record of building, developing, and coaching diverse data teams with the ability to communicate complex concepts to both technical and non-technical audiences
- An appreciation of risk management relating to data security, data protection, ethics and maintenance of public trust
- Exceptional analytical and problem-solving skills, with the ability to draw meaningful insights from complex data sets.
- Experience in knowledge transfer, innovation and impact; and particularly translation approaches for products and services that benefit health data research.
- A track record of successful management and delivery of complex multi budget environments.

Dimensions

This is a full-time role that will work with colleagues across HDR UK and its UK-wide and international partners. As a senior leader in the Institute the post-holder will be expected to work with significant independence and in close alignment with many teams, internal and external to HDR UK. This will include acting as a key interface between HDR UK's health research and innovation community and infrastructure delivery and development teams. The post will help to translate research user data needs in to infrastructure requirements, working closely with the CTO, Director of Legal Trust and Ethics and the UK Health Data Research Alliance teams to maintain alignment and focus across multiple programmes of work throughout the Institute.

HDR UK is a national institute, and our activities take place across the UK

Summary of Benefits

- 35 days annual leave inclusive of 8 days bank holidays.
- Annual leave purchase scheme
- Medical Cash-Plan and Doctorline
- Wellbeing support, including access to the TogetherAll app
- Generous pension scheme, with 10% employer contributions

Equal Opportunities Policy Statement

Health Data Research UK is an equal opportunities employer, and as such aims to treat all employees, consultants and applicants fairly. It is our policy to provide employment equality to all, irrespective of:

- Gender, including gender reassignment
- Marital or civil partnership status
- Having or not having dependants
- Religion or belief
- Race (including colour, nationality, ethnic or national origins)
- Disability
- Sexual orientation
- Age

We are opposed to all forms of unlawful and unfair discrimination. All job applicants and employees who work for us will be treated fairly and will not be unfairly discriminated against on any of the above grounds. Decisions about recruitment and selection, promotion, training or any other benefit will be made objectively and without unlawful discrimination.

Safeguarding

HDR UK is committed to robust safeguarding policies, we expect everyone who works with us to share our commitment to safeguarding.