

Networked Data Lab Overview

What is the Networked Data Lab?

The Networked Data Lab is a new Health Foundation initiative that will build a collaborative network of analytical teams across the UK and use linked datasets to produce insights on critical areas of population health and health care. Initially, three local partners with existing linked health and care datasets will be selected to join the Networked Data Lab. The selected partners will work collaboratively with each other and with a team at the Health Foundation to deliver data-driven insights on shared problems facing the health and care system. Teams will be provided with funding up to £400,000 over two years to enable them to participate in the initiative and to support engagement with patients and the public, technical requirements, data stewardship and project management.

The aims of the Networked Data Lab

The overall aim of the Networked Data Lab is to improve health and care services and reduce health inequalities in the UK. We will achieve this aim by producing timely insights on the immediate problems facing the health and care service, and deeper insights into health inequalities and social determinants of health. The Networked Data Lab will also develop models of open and collaborative analytics, and models of engagement with patients and the public, that can be scaled, spread and adapted to the changing health landscape.

Complex needs in health and health care

The health and care services required by patients are complex and are currently fragmented across the health service, local government, third sector organisations and the wider community. This is accentuated by a growing population living with multiple long-term conditions, widening health inequalities and stalling increases in life expectancy. The health system is responding to these interrelated challenges by developing new models of care that span the traditional health and care system. Analysis is needed to help decision makers understand the health and care needs of patients, to identify opportunities for improvement, and to design and ultimately evaluate complex initiatives designed to address these challenges.

Gaining a fuller picture: the benefits of linking local data together

The NHS, local authorities, and broader public services collect enormous amounts of data on the health and wellbeing of individuals, what social or economic needs they might have and the services they use. By linking these datasets together, it is possible to build a more complete picture on the links between the wider determinants of health, health needs, service use, patient pathways, and health outcomes.

Several areas across the UK have already developed linked datasets – datasets that incorporate data from the different providers of health and care services including GPs, hospitals and local authorities. Valuable insights and analyses are emerging from the use of these linked datasets, helping health care leaders to understand the needs of their local population and how local organisations work together to provide services. There is now an opportunity to bring analysts in these pioneer areas together, to solve shared problems and synthesise analyses to inform decision making at a local and national level.

Working together to tackle common problems

The Networked Data Lab will initially work with three partners across the UK. The selected partners will work collaboratively with each other and the team at the Health Foundation to deliver data-driven insights on common problems facing the health and care service. The team at the Health Foundation will provide support and leadership on project management, data stewardship, design of analysis, shared statistical programming, synthesis of findings, and sharing of findings to achieve impact. The aim is to create a community of analysts, with in-person and virtual links through open shared code and data products.

Topics for analysis will be selected through a collaborative process incorporating partners' views on what are strategically important questions, existing and emerging national priorities, as well as public and patient voices. This process for selecting topics will be run at least once a year to identify a range of topics for that year.

Insights from analyses on linked datasets will be relevant at both a local and national level. For local decision makers, insights would build a deeper understanding of the needs of their communities, help improve existing services (particularly in the context of multiple services working together), and design new approaches to delivering care. At a national level, insights can help inform the design of prevention and place-based care models, as well as create an understanding of what is needed to improve the health of the public. Working alongside local teams is essential to producing insights that are useful, since they will have a better understanding of their data and the local context.

The Networked Data Lab provides an important complement to a developing ecosystem of health data linkage. The problems the Networked Data Lab aims to tackle are common to many localities, but often very complex. By working collaboratively, we hope to combine the best of local expertise with the learning that comes from working in collaboration towards a shared goal. By producing meaningful insights from data that can be used both locally and nationally, it will enable us to use data to improve the health and care of people across the country.

The Networked Data Lab's three strands of work

Analysis to inform decision making in health and social care The Networked Data Lab will produce analyses on health and health care challenges common across its partners. These are likely to include understanding social determinants of health; health inequalities; wider health and care needs of patients; service provision and care quality; and following patients across often complex health and care pathways. The Networked Data Lab will support patient and public involvement and engagement to inform these. Each partner's analyses will inform the local design and commissioning of care. Synthesised findings from all

partners will provide national and local leaders with a more complete picture of health and health care needs.

Investing in data stewardship The Networked Data Lab also aims to help build analytical skills and capability within these partners so that they can conduct analysis that informs local decision making over the long term. Each local team will agree on a programme of work with the core Networked Data Lab team that will result in the development of the datasets and analytical capability, for example through novel linkage of local datasets, improved data management or stewardship, or pilot projects that could be scaled across other Networked Data Lab local partners.

Developing open source tools and products One of the aims of the Networked Data Lab is to build a collaborative community of analysts working on common problems. To help achieve this aim, the code from the analyses will be a key output of the programme and will be made freely available. Through making the analytical code available online and making other data products available, the Networked Data Lab will demonstrate an open and collaborative way of working and provide analytical products for use across the health and care service.