

Health Insights / Research Secure Data Environment Support

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About CF

CF is a leading consultancy with a purpose to **make an enduring impact on health and healthcare**. We work with leaders and frontline teams to improve health, transform healthcare, drive adoption of innovation and create value through investment.

Our mission is to **be invaluable to our clients, supporting them to innovate and make lasting improvements and to build an exceptional company that attracts, develops, and retains a trusted and uniquely talented team.**

Our consultancy serves the entire healthcare sector, from payors and providers of care, to life science companies, health tech and sector suppliers. We provide **end-to-end services**, spanning strategy to implementation, accelerated by data, digital and AI. We shape opinion through evidence-based thought leadership on the key issues affecting health. With **unmatched ability to access health data**, our consultants are a driving force for delivering positive and meaningful change.

We help systems and organisations realise transformative change, to drive improvements in quality of care and performance. We inspire clients to innovate and sustain change, through a trusted, talented, and dedicated team. Our partners lead all our work and bring decades of experience from within the NHS.

Our work with health systems includes partnering with public and private providers of all kinds of care, as well as their commissioners and regulators. We **work at every level** — national, regional, and local — **supporting health systems to improve** from a strategic, performance and organisational perspective.

We are passionate about healthcare, **improving outcomes** and **reducing health inequalities** through consultancy and the application of data and tools. CF is proud to have **won multiple awards** recognising our ability to partner with the NHS (including throughout the Covid pandemic), support the transformation of care, enable action with data and set the agenda through thought leadership.

Some of the awards we have been recognised with include:

- Gold in Healthcare and Silver in both Pharma & Life Sciences and Management categories Consultancy.ME 2025)
- Highly Commended in Change and Transformation in the Public Sector & Best Use of Thought Leadership categories - finalist across five categories (MCA 2025)
- Top UK Healthcare, Pharma and LS consultancy (consultancy.uk 2023)



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- Finalists across five categories (MCA 2023)
 - Finalists across three categories (HSJ 2023)
 - Project of the Year, Performance Improvement in the Public Sector and Strategy (MCA 2022)
 - Best Healthcare Analytics Project for the NHS (HSJ 2021)
 - Best Consultancy Partnership with the NHS (HSJ 2020)
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 - Best Healthcare Analytics Project for the NHS (HSJ 2020)
 - System and Data Integration (HSJ 2020)
 - Change and Transformation in the Public Sector (MCA 2020)
 - Best use of Strategy (MCA 2020)
 - Thought Leadership (MCA 2019)

Our data and cloud capabilities

We believe that we are uniquely positioned to support you in this work for several reasons:

- **Award winning analytics.** Our Data Innovation team have won Best Healthcare Analytics Projects and the Best Provider for Healthcare Analytics in multiple HSJ Awards.
- **Unparalleled data access.** We have access to more healthcare data in the UK than any other consulting company
- **Best in class security. We conduct regular penetration testing via trusted security experts.** Privacy is enhanced through our Amazon Virtual Private Cloud (VPC) in a logically isolated virtual network where all our services are controlled using best in class two factor authentication providers
- **We subscribe to an “infrastructure as code” philosophy** where all our software and service infrastructure is documented and controlled through auditable and shareable code allowing rapid deployment, reduced management costs and increased efficiency
- **All our software is comprehensively logged and auditable** to ensure any issues with service provision are identified, communicated, and ameliorated as quickly as possible



Research Secure Data Environment Support

Service overview

Secure Data Environments (SDEs) have emerged as a pivotal innovation for data-driven research within the healthcare and life sciences sector. These highly secure computing environments allow authorised researchers to remotely access de-identified, patient-level and linked health and social care data, whilst making sure that sensitive information remains within a protected space. This approach not only upholds rigorous standards of patient privacy but also facilitates scientific breakthroughs and the enhancement of public services through advanced data analysis. All SDEs must adhere to the Five Safes framework – safe settings, safe data, safe people, safe projects, and safe outputs – to ensure the highest standards of privacy, security, and public trust.

SDEs support a wide range of use cases across healthcare, life sciences, academia and regulation, with some of the use cases that SDEs can support highlighted below:

- **Epidemiological Studies:** longitudinal analysis of disease trends, tracking disease incidence, prevalence, and risk factors over time to understand disease progression and inform preventive strategies.
- **Real-World Studies:** Cohort and clinical trial site discovery, conducting real-world studies, and support regulatory submissions, particularly for rare diseases.
- **Drug Safety Research:** Drug safety research, effectiveness research, disease monitoring, pharmacovigilance, health services research, clinical trial recruitment and feasibility.
- **Genomic Medicine:** Advance genomic medicine by enabling precision healthcare, personalised treatments, and genomic research.
- **Health and Care Pathways:** Longitudinal studies to track access and efficiency of care provided from different health and care settings, using linked datasets, to understand the flow and efficiency of care across the whole system.
- **Predictive Analytics:** Study determinants of health, predict disease risk, identify biomarkers, and develop personalised interventions for disease prevention and management.

We have extensive experience in working with data to support use cases that require navigating different types of data, such as primary care, secondary care, prescribing, diagnostics and more. We can obtain this data from various sources, including national and subnational SDEs, commercial datasets and national cohort studies, and make linkages to other datasets as required.

Our expertise in healthcare, life sciences and analytics accelerates our understanding of your needs and how we can match them with the data you require. Our expertise is demonstrated across our entire organisation: 10% of our staff are doctors, 15% have PhDs and a further 20%



have second or third degrees in machine learning, statistics or computer science. Moreover, we have delivered over 1,000 engagements across the health sector, and our consultants recognised for their ability to translate user needs into practical insights and recommendations. We pride ourselves in our highly collaborative approach, working closely with NHS partners at every stage, from problem definition to co-design and dissemination of findings.

The large amounts of data are available across the SDE ecosystem, but the ability to bring this data together to address complex research questions is difficult. We have developed a scalable way of combining data from various sources, including SDEs, with healthcare data that we have private and public access to, supported by best practice. Our support provides key capabilities to streamline completing research and data analysis using data from SDEs and other sources:

- **Interoperability**- we facilitate data linkage between datasets to allow integration and analysis of data across different sources.
- **Data Access and Management** – user-friendly interface for accessing and managing identifiable data across various healthcare domains such as primary and secondary care, prescribing, diagnostics, community care, mental health and vaccines.
- **Customisable Data Queries** – we provide pre-defined template queries and the ability to save queries for future use to make it easy to retrieve the data required without starting from scratch each time
- **Visualisation** – leverage pre-defined and custom visualisations to understand and interpret the data, including completeness, bias and skew that may impact the reliability of the research findings

Through this support, researchers can combine data from SDEs, national cohort studies and other datasets to meet their research objectives.

This service is intended to help you develop and deliver benefits to your organisation. CF works together with clients to understand their specific requirements to help tailor the best approach. Please contact us on contracts@carnallfarrar.com to discuss your needs further.

Who the support is for

The Research Secure Data Environment Support can be used by different groups across your organisation. Examples of potential user groups are shown below:

1. **Data and research teams** – individuals involved in data analysis, research and real world evidence studies
2. **Health and care professionals** – Clinicians, nurses and other healthcare professionals can leverage the support to analyse patient data for clinical trial recruitment and feasibility assessment
3. **Academia or research institutes** – researchers and academics can use the support for various research purposes, such as pharmacovigilance studies, burden of illness studies and clinical trials



What our support enables

1. Enhanced Understanding

- By integrating and federating data from various sources, we provide insights that cannot be achieved by analysing a single dataset or domain alone
- Allows uniform data queries and interpretation across multi-modal datasets at national and sub-national levels, resulting in harmonised outputs
- Clear visualisations allow a deep understanding of the data quality, leading to more robust data results

2. Efficient Data Querying

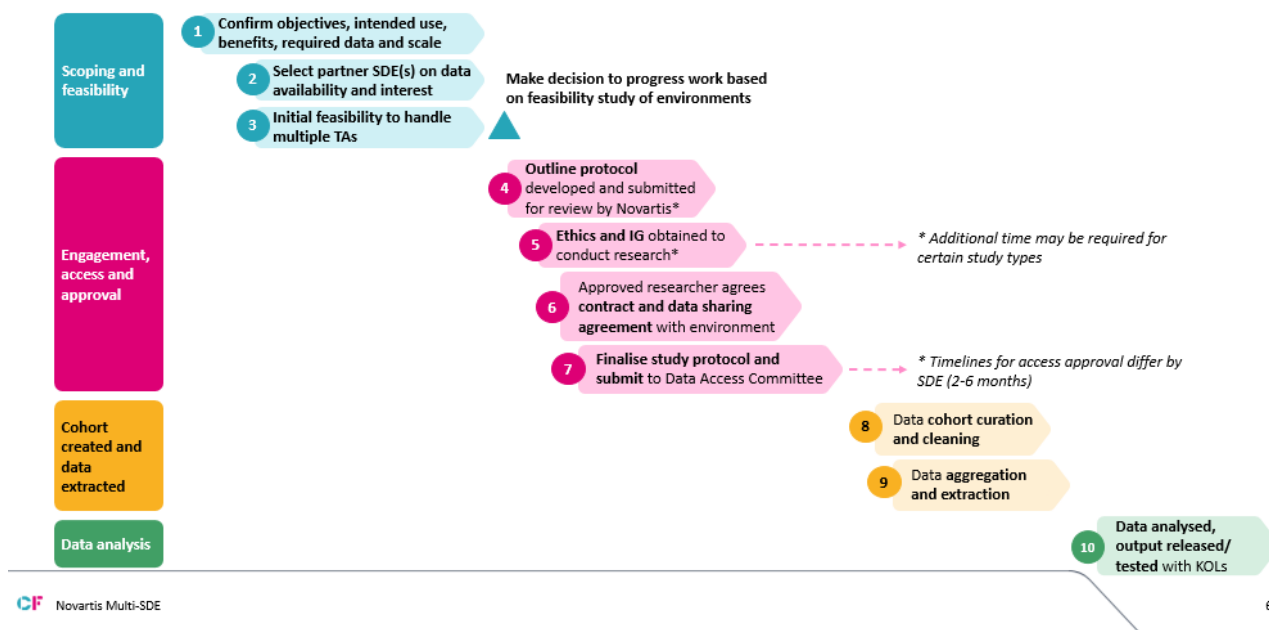
- Pre-defined templates expedite the setup process for new studies, making data retrieval quick and efficient and streamline repeated research and analysis tasks, saving time and resources
- Scalable architecture for secure, compliant research and query curation at local, regional and national scale
- Customisable queries allow flexible tailoring to specific research needs

3. Insightful Visualisation

- Custom visualisations help in making sense of complex datasets, leading to clearer research outcomes
- In-built visualisations assist in identifying data quality issues to support reliable research findings
- Impactful visualisations enable researchers to communicate their findings clearly

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The timeline and process for CF to access one Secure Data Environment for this work has four phases including feasibility, data access, extraction and analysis



Benefits

- Easily combine different data sources of healthcare data to meet your research needs
- Reduce time spent on data extraction and processing using tailored queries
- Perform high quality data analysis, addressing potential data issues and improve the robustness of your results
- Embed multidisciplinary teams working and leadership required to deliver impactful research quickly
- Share and collaborate easily across stakeholders as you complete your research, using a single platform
- Enables rapid cohort discovery and feasibility for clinical trials, supporting regulatory submissions and real-world evidence generation, as well as risk stratification and health inequalities analysis for population health management

How we work

We are platform agnostic with regard to data infrastructure. We do require an approved secure cloud platform with appropriate information governance, research ethics, security and user management. We have in depth experience developing on top of AWS, Azure, Google cloud platform and Palantir's Foundry ecosystem.

We generally set up projects using a simple 3-step process:

1. **Collect additional data from relevant organisations (if needed)** If local patient-level data is to be used, we will issue a data request to meet the specification and outputs agreed, and in parallel work with the Information Governance team to ensure the correct IG arrangements are in place and are in compliance with GDPR requirements.
2. **Load and cleanse data** Once we have received all the data, we would cleanse it as required and load it, ready for validation
3. **Validate data** we would work with local information teams to ensure that the initial outputs are in-line with the data provided and local knowledge

Onboarding and support packages

CF provides the full range of services needed to support deployment, integration and ongoing usage of the tool. We provide a core analytical support package with the option for additional consultancy support depending on your organisation's requirements. The packages we offer are detailed below. We would be happy to discuss your specific requirements to tailor the best support we can offer. The three levels of support we offer are detailed below:

1. The analytical support package (core)

The core package includes analytical support for:

- Mobilisation:
 - Agree project goals with a lead organisation (to be nominated locally)
 - Issue a data request to each provider within scope



- Ensure information governance is in place, working with local organisations to complete data privacy assessments and implement data sharing agreements
- The initial setup of the tool, which usually requires around 12 days of support from our Data Innovation Lead. This involves:
 - Three **“train the trainer” sessions** provided onsite
 - The **ongoing licence fee**, which covers data hosting, processes and regular (e.g. monthly or weekly) refresh. We work with each data provider to set up data feeds into the tool – via a secure FTP – at an agreed time interval (likely weekly or monthly), so that the data is automatically loaded into the tool on an ongoing basis)

2. The consultancy support package (optional)

We offer three different optional consultancy support packages to choose from in year 1 and beyond:

- **Bronze: Two weeks** of initial consultancy support to build an example plan from the data based on best practice; this support is led by senior leadership (Associate Partner), supported by a full-time Consultant and full-time Analyst
- **Silver: Four to six weeks** of consultancy support to understand the key drivers and align key stakeholders around strategic priorities to address; this support is led by senior leadership (Partner), supported by full-time team (Manager, Consultant, Analyst)
- **Gold:** As Silver, but with **additional quarterly reviews** over a year to agree priorities; this includes four weeks of additional support (spread over four quarters), led by senior leadership (Partner), supported by a full-time Consultant and full-time Analyst

Our consultancy support is also discounted to reflect economies of scale (e.g. through joint system workshops).

3. Further bespoke consultancy support (optional)

We can also provide additional consultancy support to deploy the tool. The scope and cost will be agreed on a bespoke basis but might include:

- Further product development (such as including other data sources or metrics)
- Support to build an integrated dataset with data warehouse
- Support to develop information governance solutions
- Support to understand existing plans and facilitate agreement to a plan across different providers and commissioners
- Facilitate workshops with clinicians and other colleagues
- Organisational development to support local organisations to deliver the plans

Security and Information Governance



Collective planning is often difficult because of issues around sharing data and information governance. As part of our support, CF will go through a robust information governance process which includes:

- Understanding the information governance requirements of each organisation
- Supporting organisations to complete data privacy assessments, where required
- Co-developing and implementing data sharing agreements
- Ensuring compliance with NHSE requirements

