

Evidence of need

The UK and its inhabitants are facing unprecedented global change, challenges and opportunities. Current and future generations are likely to experience an environment very different to that of past generations, reflecting the impact of events and changes including the 2007-8 financial crisis and subsequent austerity, the societal and economic impacts of changing patterns of international relationships, growing in-work poverty, increasingly complex family structures and dynamics, a changing world of work and education, the digital revolution, climate change, changing physical and mental health challenges, and the COVID-19 pandemic. There is a pressing need for economic and social science data and infrastructure investments that are fit for purpose, agile and take advantage of innovative forms of data, technology and methodology. Such investments will enable high-quality, high-impact research to inform UK responses that maximise public benefits.

Flow chart description: the evidence of need feeds into the theory of change's objective and activities.

Objective

Build on ESRC's international reputation for high-quality data infrastructure and develop a world-leading UK data infrastructure portfolio that is integrated, interoperable and flexible, enabling safe, ethical and efficient use of data at scale. This will support ground-breaking research to provide new insights into how behavioural, environmental and biosocial factors interact, as well as policy and business needs, to enable different outcomes for individuals and society.

Flow chart description: the objective feeds into the theory of change's inputs and activities.

Inputs or activities

The main input into the theory of change is a Data Infrastructure Strategy. The Data Infrastructure Strategy concerns investment management, an ideas pipeline, finance, assessment, mapping, engagement, impact, and governance.

Activities for funded investments may include:

- data extraction/collection/generation
- data curation, improvement, storage and linkage
- discoverability and access
- leadership development, training, capacity building
- methodological development and innovation
- collaborating and facilitating connections
- demonstrating and shaping best-practice
- responsiveness to changing needs & opportunities
- informed, transparent, consistent decision-making

Non-financial activities undertaken by ESRC may include:

- landscape oversight and co-ordination
- supporting innovation,
- disseminating and encouraging best practice
- efficient monitoring/assurance,
- collaboration with the research community and with government.
- championing transparency and impact

Indirect funding may also be relevant. This would be from elsewhere in ESRC, UKRI or externally. This may be for research or other activities which use data infrastructure, and which directly create impact e.g. research, policymaking, skills development

Outputs

Outputs from this activity will result from directly and indirectly funded activity

Directly funded outputs include:

- Accessible, high quality datasets and best-practice data use guidelines e.g. legal and ethics
- Data architecture that is able to efficiently balance and meet needs
- Productive relationships / connections
- Training courses/people with relevant skills
- Diverse, interdisciplinary teams with the capability to meet the range of identified needs
- Impact trackers and communications
- Technological and analytical advances

Indirectly funded outputs include:

- High-quality, relevant, accessible scientific papers and other research outputs such as data, code, models, algorithms, maps (which may then be inputted back into infrastructure)
- Training courses/people with relevant skills
- Impact trackers and communications
- Social or economic insights (e.g. op-eds), science comms (e.g. social media)
- Unfunded outputs include:

Near term outcomes

These outputs will lead to near-term outcomes including:

- Data use increases and improves (analysis, sharing best practice, linkage, ethics/legal, citation and impact tracking)
- Capability building and leadership is enhanced through the use and uptake of high-quality tools, resources, education, and infrastructure and research community skills
- Improved, embedded engagement and communication with internal and external stakeholders, including on the impact of data enabled research
- Refined methodology/metrics to understand types and pathways to impacts, including how change can be measured over time, so investments can evolve appropriately

- Increased academic impact, knowledge and understanding of social and economic phenomena and their measurement
- Improved quantity and quality of data, which are strategically aligned, better understood and effectively utilised

Long-term outcomes

Near-term outcomes will lead to long-term outcomes including:

- Wider, more effective use and continuous improvement of our investments that are meeting existing and changing needs
- Greater number and range of skilled people who lead, progress and contribute to delivering societal benefits through ground-breaking research
- More interdisciplinary and collaborative investments that better respond to identified research and policy needs. Increased recognition of data enabled research
- Improved evidencing and communication around policy, economic and societal impact to ensure continued support and funding for data investments and infrastructures
- More responsive, ground-breaking research which provides new insights into a range of outcomes for individuals and society
- Data are more inclusive, FAIR, sustainable, complete and trusted so can address a broader range of research questions and societal challenges

Impact

The delivery of public services is improved through better policies, which are informed by the effective application of highly valued ESRC data investments and infrastructures by skilled researchers. These improvements, underpinned by public trust, deliver enhanced societal and economic outcomes, improved response to major challenges, and enable the advancement of science through innovation and from taking advantage of the opportunities that data offers. Embracing the value of data and effective data use enhances the UK's reputation as a front runner in innovation, which encourages collaboration and the international flow of data.