



Local Data Spaces

Pilot Study Evaluation

August 2021



The Local Data Spaces programme

The [Local Data Spaces programme](#) is granting local authorities across England access to key national Covid-19 datasets by creating 'local data spaces' in the Office for National Statistics (ONS) [Secure Research Service \(SRS\)](#), a trusted research environment.

Local Data Spaces extends the [Joint Biosecurity Centre's](#) role to centralise data flows in the UK Government's pandemic response. It has built upon the secure data sharing infrastructure and technical expertise of ONS to provide local authority analytics teams with a safe and secure infrastructure to carry out analysis on granular health and non-health datasets.

Further, Local Data Spaces has supported the improved capability of local authorities by offering analytical capacity via academic partnerships.

Local Data Spaces is a partnership that was established and coordinated by the Joint Biosecurity Centre, with funding from the [Economic and Social Research Council](#) via [ADR UK \(Administrative Data Research UK\)](#). ONS is involved as a technical partner and the Ministry of Housing, Communities and Local Government in an advisory capacity.

A six-month Local Data Spaces pilot project undertaken between November 2020 to April 2021 provided analytical support to local authorities from the academic community. As part of this, a process evaluation, impact evaluation and feasibility considerations were carried out, assessing the efficacy of a scaled programme of work for Local Data Spaces. **This report outlines the results of the pilot evaluation and offers a set of policy recommendations for programme integration.**

Background

- The Covid-19 pandemic has presented a considerable test to the way the United Kingdom (UK) Government takes and acts on scientific advice.
- Data flows and data systems between central government and local authorities have emerged as particularly important in the emergency response.
- Since March 2020, central government has significantly strengthened its sharing of key Covid-19 data and information with local authorities. For instance, [Public Health England's](#) Power-BI portal regularly shares health-oriented information with local areas. Further, in response to the pandemic emergency, Public Health England established Data Sharing Agreements with the England-wide Directors of the Public Health Network. These allow Directors of Public Health to authorise access to record-level health data with their analytics teams, who can then carry out analysis to better understand outbreaks and incidents in their local areas.
- Many local authorities, however, require the necessary technical infrastructure and tools to safely access, work with, and export data and analysis around priority Covid-19 research questions.
- Analytical capability within local authorities also remains highly variable across England, with many local authorities requiring analytical support to generate insights around critical and time-sensitive local policy questions.
- Local Data Spaces sought to address these needs by granting local authorities access to Covid and other health datasets through the ONS SRS, a secure trusted research environment, as well as providing analytical support through academic partnerships.

The Local Data Spaces pilot

Pilot objectives

1. Test the ONS SRS as a data sharing infrastructure for the coordinated, timely and secure sharing of granular datasets between central government and local authorities;
2. Work to identify and grant local authorities access to key Covid-19 datasets required to meet their priority research questions; and
3. Harness academic partnerships to provide capability support to local authorities around identified Covid-19 research priorities.

Pilot activities

The Local Data Spaces pilot carried out four main activities:

1. **Local authority engagement:** *To understand local authority data and data infrastructure needs and analytical capability requirements, as well as providing support with the SRS Accreditation Process.*
In order to reach local authorities, the team engaged a diverse set of local authority networks facilitated by different partners, including the Local Government Association, the ONS census group, the Department of Health and Social Care (DHSC) Good Practice Network, Consumer Data Research Centre local authority networks and Public Health England's Local Knowledge and Intelligence Service local authority networks. 25 local authorities took part in the pilot.
2. **Technical infrastructure:** *Testing trusted research environments as a data sharing infrastructure for the coordinated, timely and secure sharing of granular datasets between central government and local authorities, by establishing 'local data spaces' in the ONS SRS.*
In order to carry out research on the SRS, local authority analysts had to go through the 'SRS Accreditation Process', which requires the completion of individual researcher accreditation, approval of a research project application by the Research Accreditation Panel, and ensuring Assured Organisation Connectivity. The ONS Support Teams worked closely with local authorities to assist them through this process.
3. **Data access:** *Working to identify and grant local authorities access to key Covid-19 datasets required to meet their priority research questions.*
As part of the Local Data Spaces offering, local authorities were initially granted controlled access to relevant datasets in the ONS data catalogue¹ as well as DHSC Test & Trace data. In addition, through our local authority engagement activities, the team identified and sought to grant local authorities access to a selection of additional datasets to support Covid-19 responses.

¹ The ONS data catalogue can be found [on the ONS website](#).

4. **Analytical capability support through academic partnerships:** *Providing capability support to local authorities around identified Covid-19 research priorities.* As part of the pilot offering, ADR UK funded four full-time geospatial analysts to provide analytical support to local authorities. The researchers carried out research activities on their own research projects in the ONS SRS. The ADR UK team focused on two research priorities which emerged from the local authority engagement activities: (i) occupational inequalities in risk of Covid-19 and hospitalisation; and (ii) economic impacts of Covid-19 on small area recovery.

Pilot evaluation methodology

- Evaluation activities were guided by a Logic Model developed by the Joint Biosecurity Centre research team which outlined a simplified Theory of Change framework.
- Questions were developed around feasibility considerations. These were aimed at understanding the technical and human resource requirements for scaling Local Data Spaces beyond the pilot.
- Data collection activities included: nine one-to-one interviews with local authority analysts; evaluation workshops with ONS and ADR UK Support Teams; ADR UK output feedback through emails and focus groups with a group of regional local authority Population Health Intelligence leads; and SRS Accreditation Process tracking logs.
- Thematic content analysis was carried out on detailed notes taken through the local authority interviews and ONS and ADR UK workshops. This formed the main basis for the pilot evaluation results, which are set out in this report.

Summary of findings

Onboarding and outputs

- 59 researchers from a total of 17 local authority or regional/sub-regional grouping of local authorities completed the SRS researcher accreditation training, of which 23 researchers completed the researcher accreditation process, including taking the examination.
- Three project space applications were approved by the Research Accreditation Panel and one Assured Organisation Connectivity was approved.
- The ADR UK team produced a series of research outputs around the two research priorities which emerged from the local authority Engagement activities (see above). These included a set of 10 one-page reports for each local authority across England, made available [through the Consumer Data Research Centre website](#).
- The ADR UK team also created a series of code products which can be used to clean and prepare data within the SRS and can be accessed by accredited local authority analysts through the SRS platform beyond the Local Data Spaces pilot.

Interviews and workshop analysis

- Local Data Spaces was well-received by all local authorities who engaged with the pilot project. Despite being time-limited, they showed engagement with the process even through the winter peak of the pandemic, demonstrating the benefits they saw from having local data spaces. However, there was strong evidence indicating the importance of senior leadership buy-in within local authorities to ensure support for the allocation of resources for the SRS accreditation process.
- Local authorities with in-house analytical capability were overwhelmingly interested in access to the datasets on offer through the pilot. Many local authorities also lacked the data sharing infrastructure they needed and felt that the SRS would meet their requirements.
- Local authority analysts felt well supported throughout the SRS accreditation process, although many found it lengthy and time-consuming. At the same time, they recognised the significant amount of support that the SRS team provided throughout. Although no local authority gained direct access to the data, academic partners and experienced users were able to do some analysis on their behalf.
- As a technical infrastructure, the SRS was found to have an appropriate range of statistical tools available to meet the needs of researchers. Researchers, however, identified some usability challenges with the SRS, such as folder organisation and metadata availability.
- Data needs were found to change among local authorities within an ever-evolving epidemiological, economic and social context. Effectively granting access to data is an iterative process between identifying local policy priorities and what data exists to

“The fact that we even made the time to be part of this speaks volumes to how keen we are. We would [otherwise] have had to say no by definition during Covid.”

Local authority health analyst

address these. Sustained engagement with local authorities around these changing needs is needed to facilitate this.

- The study found evidence for widespread interest amongst local authorities for strengthening academic partnerships, and increased access to analytical support. Many local authorities required additional human resources to meet their local policy questions during the pandemic period. Despite this, academic support was comparatively underutilised by local authorities in this period.
- The capability support provided by academic partners as part of the pilot study – i.e.

“We’ve had a huge increase in demand for data. Since Covid, everyone wants to do evidence-based decision making. It’s been exciting, very fast paced.”

Local authority public health analyst

one-page reports and coding products – was well-received by local authorities. The reports on the occupational differences in Covid-19 infections were of particular interest, given occupational data was not previously available to local authorities. Local authorities would appreciate additional support with interpreting these types of reports to help them better contextualise and apply the evidence provided.

- With regard to feasibility considerations, if the Local Data Spaces pilot were to be scaled up across England on the SRS, there would be a substantial impact on the platform’s technical capacity and human resource requirements. For instance, it was estimated that the SRS support team capacity would need to be tripled relative to current levels to accommodate scale. Appropriate considerations would need to be made to reflect this in-service provision on a greater scale. A formal feasibility assessment was beyond the scope of this project.

Limitations of the pilot

- While attempts were made to recruit from a diverse range of English local authorities, the groups who engaged with the pilot tended to be from local authorities with moderate or high analytical capabilities and/or those who had capacity to participate in the pilot alongside other competing demands. It is thought that academic support provided via the Local Data Spaces programme would be of greatest benefit to local authorities with lower in-house capabilities, though this could not be confirmed through the pilot. Local authorities with moderate to high in-house capabilities are expected to have the technical skills to analyse data within the SRS themselves.
- Feasibility considerations were based on estimations from the ONS SRS teams based on given scenarios, and may therefore be limited for informing scalability of the project. A thorough feasibility study is advised for reliable estimates for decision making.
- As no local authorities gained access to data in the six-month timescale of the pilot, the process and impact evaluations are limited in understanding the usability of the SRS for local authority analysts and the usefulness of the SRS data for their research and policy needs beyond conceptual feedback.

Conclusions and policy recommendations

I) A centrally coordinated data sharing infrastructure is required for future pandemic preparedness.

Secure and reliable data sharing infrastructure between central government and local authorities is key to a coordinated and effective UK government response to the current and future health crises. The Local Data Spaces pilot study found that trusted research environments provide a highly secure and sustainable solution for data sharing between central government and local authorities. Once established, trusted research environments allow for a coordinated and streamlined data sharing governance route with local authorities which facilitates tactical collaboration with academic or regional government partners.

Recommendation: Investment in appropriate trusted research environments is recommended to provide the required foundational data sharing infrastructure between central and local government across the UK as a key component of a broader federated data architecture.

Recommendation: Trusted research environment accreditation should continue be rolled out to local authorities across the UK to support the pandemic response and ensure future health threat preparedness.

II) Local authorities require additional support to harness the benefits of trusted research environments. This includes additional support for trusted research environment accreditation and use, as well as support with rapidly evolving data needs.

Local authorities have highly varied analytical capabilities and face considerable resource constraints which need to be considered if the Local Data Spaces initiative is to be successful with this type of user. Local authorities will require specialised engagement and support services, including additional support with trusted research environment accreditation and use, and engagement and understanding around their rapidly evolving data needs.

Recommendation: The establishment of a dedicated resource – such as in the form of a ‘Local Authority Support Unit’ – is required to service the local authority customers of trusted research environments. It is recommended that this resource is used to support local authority access to trusted research environments, including accreditation of researchers and projects and establishing remote access where required, as well as maintaining trusted research environments to an appropriate standard. This unit should also facilitate data access, by identifying local authority research priorities and matching them with datasets required to meet them.

III) Academic partnerships provide a unique opportunity to fill critical analytical gaps in an emergency response setting.

In contrast to the central role academia has played in the national Covid-19 effort, this study has found that academics remain a largely underutilised resource in the local government response. Alongside the need to develop in-house local authority analytical capabilities, the academic community provide a critical pool of expertise not otherwise readily accessible to local government.

Difficulties establishing and maintaining academic and local policy collaborations include finding a common language that accommodates both practical policy questions and academic methodologies, and matchmaking between policy priorities and local academic expertise. In addition, practical challenges in establishing bespoke Data Sharing Agreements between local authorities and their academic partners were found to be prohibitive. Trusted research environments provide a unique opportunity to facilitate collaboration between local authorities and their local academic communities.

Recommendation: The provision of funding to sponsor academic data analytical capability support to local authorities working on trusted research environment project spaces. It is recommended that capability support be designed to harness the unique academic-policy collaboration opportunities trusted research environments offer by encouraging research on shared project spaces.

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