UK Longitudinal Linkage Collaboration

Population Health Sciences

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UK Longitudinal Linkage Collaboration (UK LLC)

SECURE ENVIRONMENTS POLICY

PUBLIC

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Review History

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V1.1	17/05/2023	Katharine Evans, Governance & Policy Manager	1, 4, 5 – general update	Andy Boyd, Director
V1.2	29/04/2024	Hannah Woodward, Information Security Officer	Updated logos and made general minor updates to text	Katharine Evans, Senior Data Manager (Governance & Users)

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1. INTRODUCTION

1.1 Background

The UK Longitudinal Linkage Collaboration (UK LLC) organisation is led by the University of Bristol (UoB) and operated in collaboration with the University of Edinburgh (UoE).

UK LLC holds **de-identified data** about **Longitudinal Population Study (LPS) participants** in the **UK LLC Trusted Research Environment (TRE)**. TREs are **data storage and access platforms** that allow organisations to control:

1. Who can access the TRE.
2. What data approved researchers can access.
3. What approved researchers can do with the data in the TRE.
4. What information approved researchers can remove from the TRE.

> **Safeguarding the anonymity and security of LPS participants' data stored in the TRE are of paramount importance to UK LLC.**

This policy will be reviewed to respond to any changes in the UK LLC risk assessment or risk treatment plan and at least annually.

1.2 Purpose

This policy sets out UK LLC's requirements for the UK LLC TRE – the physical environment, the associated processes and the involvement of stakeholders – that ensure the anonymity and security (confidentiality, integrity and availability) of LPS participants' data.

This policy should be read in conjunction with [UK LLC's Information Security Policy (POL-ISM-001)](#) and [UK LLC's Data Access and Acceptable Use Policy (POL-ISM-003)](#). These policies explain, respectively: (i) UK LLC's overall approach to information security; and (ii) UK LLC's commitments to LPS participants, data owners and researchers, the process to apply to access the TRE and the rules, processes and procedures that approved researchers agree to follow when working in the TRE.

2. SCOPE

This policy applies to the **organisations** that are **contracted** by the University of Bristol to: (i) **provide the TRE infrastructure** that hosts the UK LLC TRE; (ii) **perform statistical disclosure checks** on outputs; and (iii) **conduct the de-personalisation** and **linkage processes** in their role as UK LLC's Trusted Third Party.

The policy also applies to all **data owners** who contribute data to the UK LLC TRE and all **UK LLC staff** involved in the **application process** and the **data preparation and provisioning processes**.

3. ABBREVIATIONS

DEA   Digital Economy Act

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LPS   Longitudinal Population Studies

ONS   Office for National Statistics

PPIE   Public and Participant Involvement and Engagement

TRE   Trusted Research Environment

UK LLC   UK Longitudinal Linkage Collaboration

UoB   University of Bristol

UoE   University of Edinburgh

4. ROLES AND RESPONSIBILITIES

Who	What & Why
UK LLC Applications Team (UoE)	Manages the approval of researchers and their applications.
UK LLC Data Team (UoB)	Manages and curates data and manages the access permissions and provisioning of data to approved researchers.
UK LLC Head of Operations (UoB)	Manages contracts with suppliers and data owners.
UK LLC Director (UoB)	SIRO for UK LLC.
Secure eResearch Platform (SeRP UK) at Swansea University	Provides and supports the TRE infrastructure for the UK LLC TRE. Processes File 2s prior to their ingest to the UK LLC TRE.
Digital Health and Care Wales (DHCW)	UK LLC's Trusted Third Party for linkage of data – they create files of participant identifiers which they send to the linked data owners, and they manage ID encryption and permission filtering.
University of Leicester	Geo-data modeller for UK LLC – cleans address data and assigns geo-spatial coordinates to addresses, models environmental exposures, links spatial data to geo-coordinated address data, sends File 2s to SeRP UK for ingest to the UK LLC TRE.
SAIL Databank	Perform statistical disclosure checks on analytical outputs.
LPS	LPS send a File 1 containing personal identifiers to DHCW for linkage with other data sources and a File 2 with attribute data to SeRP UK for ingest to the UK LLC TRE.
Other data custodians/owners, including NHS and ONS	Linked data owners create and send File 2s to SeRP UK for ingest to the UK LLC TRE.
UK Statistics Authority Research Accreditation Panel	Reviews any application that contains administrative data and decides whether or not to approve them.

5. UK LLC TRE REQUIREMENTS

5.1   Five Safes Framework

UK LLC has adopted the TRE working practices outlined in the Office for National Statistics' (ONS) Five Safes Framework and Health Data Research UK. This framework represents best practice in data

protection and applies to both the physical environment of the UK LLC TRE and the associated operating processes.

5.1.1   Safe setting

Prevents inappropriate access to, or misuse of, data.

- Data security is integral to the design of TREs – the UK LLC database must be hosted in a TRE with accompanying policies and procedures.

- The TRE must be entirely UK based and maintain the highest levels of cyber security and information security. This includes information governance, data encryption and data access management standards, which must be evidenced by ISO 27001 certification. Full audit trails must be available upon request.

- The TRE must be accessible by approved researchers remotely through the use of two factor authentication.

- The TRE must be designed to prevent approved researchers from removing data (except through the Safe Output procedure) and to prevent non-authorised individuals from accessing the system.

- UK LLC must be transparent about who is accessing the TRE and how they are using the data.

5.1.2   Safe people

Approved researchers have the necessary technical skills to use the data effectively and safely.

- UK LLC must have robust technical and governance processes in place to accurately verify the identity, suitability and ONS Accredited Researcher status of applicants, and for managing the access of approved researchers to data within the TRE.

- UK LLC must provide the necessary functionality, tools and documentation required for analysis in the TRE.
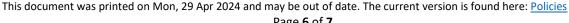
5.1.3   Safe data

The anonymity and security of information in the TRE are maintained.

- Data in the TRE must be de-identified, i.e. personal identifiers must be removed or controlled prior to ingest. UK LLC must check external inputs before they are approved to enter the TRE, both for confidentiality and quality purposes.

- UK LLC must ensure that the linking of participants' health and other records is carried out by appropriately qualified individuals.

- UK LLC must provide approved researchers only with the datasets required for them to conduct the analyses detailed in the approved project.

- UK LLC must have a valid lawful basis for the collection and processing of personal information within the TRE, as defined under data protection legislation. Where the data being accessed are confidential patient information, the requirements of the common law duty of confidentiality must also be met.

5.1.4   Safe projects

Research projects are approved for the public good.

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- UK LLC must support open working, ensuring that code developed in the TRE is accessible and reusable.
- UK LLC must be transparent in its operations, with details of all projects made publicly accessible and in language suitable for lay and professional readers.
- The data provided must be appropriate to the research that is proposed.
- The use of health and other data must be ethical, for the public good and comply with all existing law. It must also be intended for health purposes or the promotion of health or well-being and not be for commercial gain.

5.1.5   Safe outputs

Individuals can not be identified in tables and graphs taken outside the TRE.

- UK LLC must ensure that the results of analyses contain only aggregated, non-identifiable results that match the approvals of approved researchers and their projects.
- All information must be checked before it leaves the TRE, including data, code, tools and any other outputs.

5.2   Working in Partnership with LPS and their Participants

- UK LLC will work in partnership with all the contributing LPS to set the design and operating rules of the TRE. Through this partnership, UK LLC should ensure the system incorporates appropriate safeguards to respect each LPS's conditions regarding data use.
- UK LLC will support and provide materials to LPS to help them engage directly with their participants to ensure the transparent use of data in the UK LLC TRE, to provide a route to object and to explain and promote the benefits of TRE-based research.

5.3   Public and Participant Involvement and Engagement

- UK LLC will undertake active Public and Participant Involvement and Engagement (PPIE) activities to ensure that a public and LPS participant perspective contributes to the design and operation of the TRE and that the public are meaningfully involved in decisions about who can access the data in the UK LLC TRE and how the data are used.

5.4   Transparency and Upholding of Objections

- UK LLC will ensure that there is a publicly accessible register of all data held in the TRE.
- UK LLC will ensure that there is a publicly accessible register of all projects – including key details about the research organisation(s), objective(s) and outputs – which is suitable for professional and lay audiences.
- UK LLC will uphold all objections expressed by LPS participants regarding the flow of their data into the UK LLC TRE.

6. RELATED DOCUMENTS

- [POL-ISM-001 UK LLC Information Security Policy](#)
- [POL-ISM-003 UK LLC Data Access and Acceptable Use Policy](#)

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