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# UK Longitudinal Linkage Collaboration (UK LLC)

# OUTPUT REVIEW POLICY

**PUBLIC**

**Version 1**

**17 August 2023**

This document was printed on Fri, 15 Sep 2023 and may be out of date. The current version is found here: [Policies](#)

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<b>Policy number:</b>	POL-ISM-012	<b>Version:</b>	V1
<b>Author:</b>	Katharine Evans, Governance & Policy Manager	<b>Date:</b>	20/07/2023
<b>Authorised by:</b>	Andy Boyd, Director	<b>Date:</b>	17/08/2023
<b>Date published:</b>	17/08/2023	<b>Date to review:</b>	17/08/2024
<b>Permission to edit this policy must be provided by:</b>	Governance & Policy Manager		

### Review History

Version:	Review Date:	Reviewed by:	Section(s) amended:	Authorised by:

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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 University of Edinburgh (UoE) and operated in collaboration with Swansea University, University of Leicester and UCL. The UK LLC manages the collation, curation and access to de-identified data about Longitudinal Population Study (LPS) participants held in the UK LLC Trusted Research Environment (TRE). The UK LLC has adopted the working practices outlined in the [Five Safes Framework](#), including 'Safe outputs' – see the [UK LLC Secure Environments Policy](#) for further details.

**Safeguarding the anonymity and security of participants' data stored in the UK LLC TRE are of paramount importance to UK LLC. All researchers must only export anonymised data from the TRE following the output review process described in this policy.**

### 1.2 Purpose

This policy sets out UK LLC's process for reviewing researchers' requests for statistical or analytical outputs (i.e. research findings, including tables and graphs of anonymous population-level aggregate data).

Before any analytical output is released from the UK LLC TRE it must be **manually inspected** by the UK LLC Data Team and the SAIL Databank Statistical Disclosure Control (SDC) Team to ensure:

1. It is within the **scope** of the approved project.
2. It conforms to the **terms and conditions** set by **data owners**.
3. It is **not disclosive**, i.e. it does not reveal information about a known individual.

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

## 2. SCOPE

This policy applies to all approved researchers working on approved projects and members of the UK LLC Data Team working on approved projects and performing data management tasks within the UK LLC TRE who want to export their analytical outputs outside the TRE.

This policy does **not** contain details about the process researchers must follow to deposit reusable research outputs for future researchers, i.e. outputs containing derived data or documentation (e.g. syntax, user guide material, code lists). For details of that process, please see the [UK LLC Reproducible and Reusable Research Policy](#).

### 3. ABBREVIATIONS

LPS	Longitudinal Population Study
SDC	Statistical Disclosure Control
TRE	Trusted Research Environment
UK LLC	UK Longitudinal Linkage Collaboration
UoB	University of Bristol
UoE	University of Edinburgh

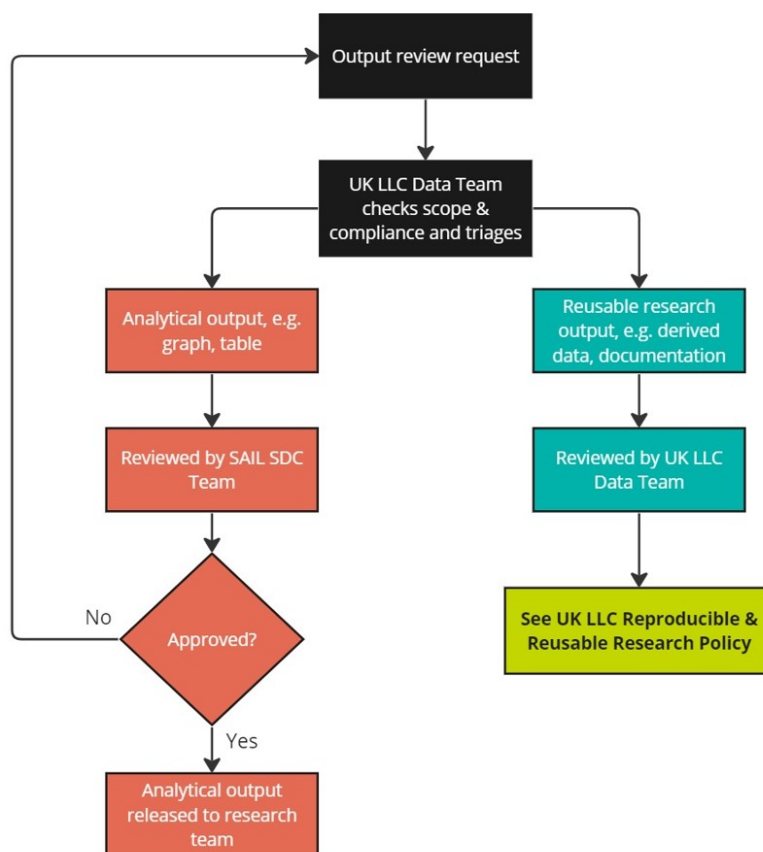
### 4. ROLES AND RESPONSIBILITIES

Who	What & Why
UK LLC Data Team (UoB)	UK LLC Data Team triages all output review requests.
Researchers	Researchers should make best efforts to ensure outputs are anonymous <u>before</u> submitting them for output review. Researchers are requested to conduct review of intermediate results within the TRE whenever possible.
UK LLC Director (UoB)	UK LLC Director is Senior Information Risk Owner (SIRO) for UK LLC.
SAIL SDC Team	SAIL Statistical Disclosure Control (SDC) Team is contracted by UK LLC to perform SDC checks on all analytical outputs from the UK LLC TRE.

### 5. OUTPUT REVIEW

#### 5.1 Output review process

The output review process is summarised in the flow diagram below. The focus of this policy is the left hand side of the flow diagram (analytical outputs); the right hand side of the flow diagram (reusable research outputs) is detailed in the [UK LLC Reproducible and Reusable Research Policy](#).



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- All analytical output review requests must be submitted via the [SeRP Portal](#). See the [UK LLC TRE User Guide](#) for detailed instructions
- All requests are checked by UK LLC Data Team for **scope** and **compliance** with data owners' terms and conditions
- All requests are triaged by UK LLC Data Team – the triage stage can take up to a week depending upon the complexity of the output:
  - All **analytical/statistical outputs** are reviewed independently by two members of the SAIL SDC Team based at Swansea University. As detailed in the [SAIL Output Review Policy](#), an initial review of all outputs will be conducted within two working days. The result of this review will be a decision, or a request for clarification if additional information is needed
  - All **reusable research outputs** are reviewed by UK LLC Data Team – see the [UK LLC Reproducible and Reusable Research Policy](#).

## 5.2 Output review rules

- It is a critical principle of the UK LLC TRE that only **anonymous population-level aggregate data** (e.g. tables of results) that are **within the scope** of the approved project can be filed out from the TRE. It is not permitted to file out any individual level data from the TRE
- It is the responsibility of the researcher to ensure the materials sent for file out are anonymous population-level aggregates and no individual data are included, or analytical findings with high disclosure risk (e.g. tables with low cell counts)

- For the detailed list of rules applied by the SAIL SDC Team see the [SAIL Output Review Policy](#), in particular section 2, 'Standards for Output Control'.
- If a data owner has particular Ts & Cs, UK LLC Data Team will ensure these additional requirements are communicated to the SAIL SDC Team
- **UK LLC adopts an SDC threshold of 10 data subjects.** Unweighted counts <10 and statistics (e.g. weighted counts, percentages, means, etc.) derived from groups containing <10 data subjects must be suppressed. Zeros are included in this threshold, i.e. counts ranging from zero to nine, inclusive, are not permitted
- The findings of the output review are binding and researchers must correct any identified issues.

### 5.3 Output standards for researchers

- It is the responsibility of the researcher to produce safe outputs. Researchers must use their knowledge from the **ONS Safe Researcher Training course** (and other relevant training) to make best efforts to ensure analytical outputs are anonymous before submitting them for output review. Excellent additional resources are:
  - i. The '[Handbook on Statistical Disclosure Control for Outputs](#)' produced by the Safe Data Access Professionals network
  - ii. The '[SRS Output Checking Guidance Document Work strand: Statistical Disclosure Control](#)' produced by ONS
- Researchers must **not hide results** or other information **within outputs**, e.g. embedded Excel files within a Word document, track changes, macros etc.
- Researchers should **name output files** following the **naming convention** detailed in the [UK LLC Naming of Data and Data-related Outputs Policy](#)
- Researchers should **minimise analytical output review requests** to reduce demand on the SAIL SDC Team. Although outputs are not restricted to final results, researchers should conduct review of intermediate results within the TRE whenever possible
- Researchers should provide **sufficient documentation** to enable reviewers to understand each output. This includes clearly labelling each row and column in tables and axes on graphs, naming the datasets analysed, including a brief description of the methods used, specifying the sample analysed, and confirming that the results are in line with the <10 rule. Repeated submission of outputs without adequate documentation will lead to immediate rejection
- **Failure to adhere to these conditions may result in sanctions**, such as users being required to undergo renewed training or suspension from access to the UK LLC TRE.

## 6. RELATED DOCUMENTS

- [SAIL Output Review Policy](#)
- [POL-ISM-001 UK LLC Information Security Policy](#)
- [POL-ISM-003 UK LLC Data Access and Acceptable Use Policy](#)
- [POL-DAT-006 UK LLC Naming of Data and Data-related Outputs Policy](#)
- [POL-ISM-007 UK LLC Publication Policy](#)

- [POL-DAT-014 UK LLC Reproducible and Reusable Research Policy](#)
- [DOC-DAT-040 UK LLC TRE User Guide](#)
- SOP-DAT-020 Requests to Add/Export Files To/From the UK LLC TRE
- SOP-DAT-023 GitLab in the TRE – curation and reproducibility.