Wessex SECURE DATA ENVIRONMENT | Part of the NHS Research Secure Data Environment Network

Part 3: Researcher Handbook

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This is Part 3 of the researcher handbook and contains information specifically in for researchers with an approved study and who are using the Wessex SDE for their research.

Further information about the pre-application process is available in “Part 1: Background, Explore and Connect” and “Part 2: Apply and collaborate”

This is to be treated as a ‘live working document’ which will be regularly reviewed and updated to address questions raised by the Wessex SDE user base and where it adds additional value to new and existing users.

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3. Access and Accelerate

Section 1 - Using data securely

All researchers must ensure that they are familiar with the expectations set out in the Wessex SDE's End User Licence Agreement and Data Access Agreement. These documents clearly set out the expectations for what researchers can and cannot do when accessing data within the SDE.

Researchers must understand that any breach of the terms of use WILL RESULT IN ACCESS TO DATA BEING REVOKED AND POSSIBLE DISCIPLINARY ACTION. Researchers should also recognise their responsibility to ensure compliance with all requirements under the data protection legislation, including UK GDPR, Caldicott Principles, and Data Protection Act 2018.

Section 2 - User training and conducting research

Following approval of a study and creation of a research workspace, researchers will be provided with access to the Wessex SDE together with onboarding support and guidance materials. The onboarding process is intended to help researchers become familiar with the secure environment, analytical tools, collaboration features and working practices required for successful use of the platform.

Depending on project requirements, onboarding may include:

- Introductory training sessions
- Demonstrations of the research environment
- One-to-one support

- User guidance materials
- Troubleshooting and technical assistance
- Ongoing researcher support throughout the study lifecycle

Researchers are encouraged to review this guide before their first training session, as many common questions can be answered through the details provided.

Accessing Your Workspace

Researchers access the Wessex SDE through the **Windows App**, which provides secure access to a dedicated research environment and approved project workspace.

Access to the Wessex SDE is provided through an individual user account. Once access has been approved, researchers will receive their login credentials together with instructions for accessing the environment.

Researchers who do not already have the Windows App installed will need to download it before accessing the Wessex SDE. The application is available for both Windows and macOS devices:

Windows:

https://apps.microsoft.com/detail/9n1f85v9t8bn

macOS:

https://apps.apple.com/us/app/windows-app/id1295203466

Researchers should ensure that they have successfully logged into the Windows App using their allocated credentials before attempting to access the SDE environment. Depending on local security requirements, users may also be required to reset their password during their first login.

Display Configuration

Before launching the **External Researcher Desktop**, researchers using multiple monitors may wish to adjust the display settings to improve usability.

To change the display configuration:

- Open the **Windows App**
- Select the three dots beside **External Researcher Desktop**
- A configuration panel will appear on the right-hand side
- Disable **Use Default Settings**
- Change the display configuration to **Simple Display**.

Researchers using multiple screens often find that the Simple Display setting provides a more user-friendly experience than the default configuration.

Logging into the Environment

Once the display settings have been configured, launch the **External Researcher Desktop** and log into the secure research workspace using your approved credentials.

After successfully logging in and opening the internal browser, researchers can access their project workspace at:

https://bcinsight.wessexsde.nhs.uk/workspace/ds

In some cases, users may initially land on the BC Insight Platform homepage:

https://bcinsight.wessexsde.nhs.uk/bcapp

If this occurs:

1. Select your profile name in the top-right corner
2. Click **Workspaces**
3. Navigate to the required Jupyter workspace.

Accessing Multiple Workspaces

Researchers working on multiple studies may have access to more than one approved project workspace. Different workspaces may contain different datasets and are subject to different project approvals and governance arrangements as per their study agreement and DAC approval. Researchers should therefore confirm they are working within the correct workspace before accessing data, creating analyses, or saving files.

To identify the active workspace:

1. Select **Data → Data Navigator**
2. Review the project folder and datasets displayed
3. Confirm that they correspond to the project you intend to work on.

The active workspace name is also displayed in the upper-left corner of the main interface and typically follows the format:

W[X]/Dataset, where **X** represents the project identifier.

To switch to another approved workspace:

1. Click the workspace name displayed in the upper-left corner of the main screen (for example, **WX/Dataset)**
2. A list of available workspaces will be displayed
3. Select the workspace you wish to access
4. Click **Yes**, **Continue** when prompted.

The platform will log you out of the current workspace and switch to the selected project workspace. Once redirected, sign in again and follow the normal workspace access procedure.

Finding Approved Data

All datasets approved for a study are made available through the project's secure workspace.

To locate approved datasets:

- Select **Data → Data Navigator**
- Locate the project folder displayed on the right-hand side
- Open the project folder
- Review the available datasets
- Record the relevant dataset identifier for analysis.

Datasets are typically assigned identifiers in the format: ***ds000000***

Researchers will usually require this identifier when accessing data through R or Python scripts.

Only datasets approved through the DARF and DAC approval processes will be available within the project workspace.

Working with Approved Data

The Wessex SDE provides access to a range of analytical environments, including:

- Jupyter Notebooks
- R / RStudio
- Python
- Other approved analytical tools available within the platform

To begin working with data:

- Navigate to **Notebooks → Notebook**
- Select **Start My Server / My Server**
- The Jupyter launcher screen will open, displaying the analytical tools available within your project workspace
- Select one of the **analytical tools**
- Open the project folder
- Review any example notebooks that have been provided.

Project workspaces commonly contain example notebooks such as:

Get_Data_R.ipynb

Get_Data_Python.ipynb

These provide examples of how approved datasets can be loaded and analysed.

Using analytical tools

Researchers may use **Python**, **R**, **RStudio**, or any of the other analytical tools available within the environment. The example notebooks provided within project folders can be used as a starting point for accessing and analysing approved datasets.

Typically, researchers will simply need to replace the example dataset identifier with the identifier assigned to their approved dataset. Dataset identifiers typically follow the format ds000000.

It is recommended that users save their scripts regularly and maintain clear version control throughout the project.

Using LibreOffice

In addition to the analytical tools available within the Jupyter environment, the Wessex SDE also provides access to LibreOffice applications, including:

- LibreOffice Calc (spreadsheet application)
- LibreOffice Writer (word processing application)

These applications may be used to prepare tables, review outputs, manage spreadsheets, perform simple calculations, and create supporting documentation within the secure environment.

Researchers can access LibreOffice directly from **the External Researcher Desktop**. After logging into the **Windows App** and launching the **External Researcher Desktop**, minimise the browser window if required and select the **LibreOffice** icon from the desktop. Users can then select **Calc** or **Writer**, depending on their requirements.

Researchers may choose to work entirely within R or Python, or combine these analytical tools with LibreOffice applications, depending on their preferred workflow.

Using Files Across Applications

The Wessex SDE allows researchers to work across multiple applications within the secure research workspace. Files created using **LibreOffice** applications can be saved in the **Documents** folder and, if required, copied into an approved project folder within the **Jupyter environment**, where they can subsequently be accessed using other analytical tools and submitted for export review.

Similarly, outputs created using **R** or **Python** can be reviewed, organised, or further developed using LibreOffice applications, while documents created in **LibreOffice** can be stored alongside analytical outputs within project folders.

Researchers can use **File Explorer** to navigate folders and manage files when working across different applications. To access **File Explorer**, select the Windows icon on the taskbar within the **External Researcher Desktop** and open **File Explorer**. Researchers can then browse folders, locate files, and organise project materials.

Files can be copied or moved between **File Explorer** and the project environment within the browser, allowing researchers to combine different tools and workflows whilst keeping files organised and available across approved applications.

Important: Only files stored within approved project folders can be submitted for export review. Files stored elsewhere within the **External Researcher Desktop** cannot be released through the export process. Researchers intending to export files created in applications such as **LibreOffice Calc** or **LibreOffice Writer** should ensure that those files are first copied into the appropriate project folder.

Importing Data into the Project Workspace

Researchers may wish to import files into the Wessex SDE to support their analysis. Examples may include:

- R scripts (.R)
- Python scripts (.py)
- Jupyter notebooks (.ipynb)
- R packages
- Python packages
- Documentation
- Data dictionaries
- Other approved project-related materials

Files should only be imported where permitted by the project's governance arrangements and the Wessex SDE policies.

Researchers requiring files to be uploaded into the project workspace should submit a request to the Wessex SDE team by email wessexsde@uhs.nhs.uk.

The request should include:

- The project name
- A list of the files to be imported
- A brief description of their intended use
- A list of any R packages, Python packages, libraries, or other dependencies required for the analysis.

Once imported, files can be stored within approved project folders and accessed through the analytical tools available within the environment.

Important: Only approved files should be imported into the Wessex SDE. Researchers should ensure that imported files comply with project governance requirements and do not contain unapproved data. As per the data access agreement signed by all approved researchers.

Collaborative Working and File Management

The Wessex SDE supports collaboration between approved members of a project team.

- Files saved within the project folder are visible to all authorised project members
- Files stored outside the project folder remain visible only to the individual user.

Important: Avoid Simultaneous Editing

Researchers should avoid working on the same file version simultaneously.

When two users work on the same file at the same time, changes made by one researcher may not be visible to others until the file is saved. This can result in changes being overwritten or lost.

Recommended Approach

Researchers are encouraged to:

- Create individual working folders within the project folder
- Maintain separate versions of scripts and analyses
- Use dedicated shared folders for collaborative outputs
- Agree local version control practices within the project team.

This approach helps minimise the risk of file conflicts and accidental loss of work.

Managing and Saving Your Work

Researchers are responsible for ensuring that work is saved appropriately throughout a project.

Good practice includes:

- Saving scripts frequently
- Maintaining version numbering (for example, v1, v2, v3)
- Saving important analytical objects separately where appropriate
- Keeping documentation up to date.

Researchers may also choose to save a complete analytical environment for later use.

Example (R)

```
# Save the environment
save.image("my_environment_v2.RData")
# Load the environment
load("my_environment_v2.RData")
```

Important Considerations

Researchers should be aware that large R environments (for example, **3-4 GB or larger, containing multiple datasets and analytical objects**) may:

- Take longer to save and load
- Not restore reliably
- Prevent RStudio sessions from restarting correctly.

Good Practice

To avoid performance issues, researchers are encouraged to:

- Save environments regularly where appropriate
- Keep environments manageable in size
- Split complex work into smaller scripts where possible
- Save key objects separately when working with large datasets.

If a session fails to restart, it may be necessary to start a new session and manually reload the saved environment.

Logging Out and Restarting Sessions

To maintain platform stability and minimise technical issues, researchers should properly close active sessions before returning to the environment on another day.

The Wessex SDE contains two Jupyter workspaces:

- A workspace associated with the *user's account*
- A workspace associated with the *approved project*.

Researchers should ensure they correctly close any active sessions and log out of the **project workspace** before ending a session.

Important: Researchers Using RStudio

Researchers using **RStudio** are encouraged to fully exit their R session before logging out of the project workspace.

To close an RStudio session:

1. Within RStudio, select File → Quit R Session
2. When prompted, select **Save Workspace** if you wish to preserve the current environment for future use

3. Allow the session to close fully before proceeding with the logout process.

Recommended Logout Process

Once any active application sessions have been closed:

1. Access the workspace: https://bcinsight.wessexsde.nhs.uk/workspace/ds
2. Open another window within the platform (for example, **Data Navigator**)
3. Select **Notebooks → Notebooks**
4. Select **Stop My Server**
5. Select **Logout** from the **project workspace** (top-right corner).

If Problems Persist

If project files fail to load correctly, datasets cannot be accessed, previously loaded objects are missing, or other session-related issues occur:

- Repeat the logout process described above.
- Log out of the *user-level* Jupyter workspace.
- Close the Windows App completely.
- Reopen the Windows App and reconnect.

Experience has shown that correctly logging out of RStudio or any other application, stopping notebook servers, and logging out of both Jupyter workspaces can help prevent warning messages, workspace-loading issues, missing datasets, and file-management problems.

Section 3 – Consultancy services

Where a study has been started and additional consultancy support requirements are identified these will be addressed through the same process outlined in Part 2 of the Researcher Handbook. The information is not repeated in this document to ensure consistency and version control. If a researcher has any questions regarding the potential support available, they should contact the SDE via email at: wessexsde@uhs.nhs.uk

Section 4 – Study Amendments

From time to time, it may be necessary to amend the information provided in an approved DARF to reflect changes relating to:

- The data required
- The methodology and/or processes used to analyse the data
- The planned outcomes and/or public and patient benefit

Details about how to make amendments to your approvals can be found in ‘Part 2 - Apply and Collaborate’ of this handbook.

Section 5 – Outputs and publication: Exporting Outputs from the Wessex SDE

Research conducted within the Wessex Secure Data Environment (SDE) takes place within a secure Trusted Research Environment (TRE). As a result, researchers cannot directly download data or files from the environment. Any outputs that are to leave the SDE must be reviewed and approved through the formal export process before release.

Researchers should allow up to two weeks for export review and disclosure control checks when planning publications, presentations, reports, or project deliverables.

What Can Be Exported?

Researchers may request the export of approved outputs generated during their study. Examples may include:

- Statistical summaries
- Aggregated results tables
- Graphs and charts
- Analytical code
- Documentation supporting the analysis
- Other approved summary outputs

These outputs may subsequently be used to prepare manuscripts, reports, conference abstracts, presentations, and other dissemination materials outside the SDE environment. Where a researcher is planning to publish results or share them at a conference, we invite you to let the team know about it by emailing: wessexsde@uhs.nhs.uk. A member of our Communications team will reach out to discuss how we can help to amplify your message and promote your work.

What Cannot Be Exported?

The following cannot be exported from the Wessex SDE:

- Raw patient-level data
- Identifiable information
- Unapproved datasets
- Outputs that may present a disclosure risk (see further information provided below)

Requests that do not comply with governance requirements will not be approved for release.

Preparing Files for Export

Before submitting an export request, researchers should create a dedicated subfolder within the project workspace containing all files to be reviewed.

The folder should be clearly named to allow the Wessex SDE team to identify the request easily. Researchers may find it helpful to use a naming convention that includes the date and purpose of the request, for example: *2026-07-22_Export_Request*.

Only files intended for review and export should be placed within the export folder.

Requesting an Export

Once the export folder has been created, researchers should submit an export request to the Wessex SDE team by email**:** wessexsde@uhs.nhs.uk

The request should include:

- The project name
- The export folder name and location
- A brief description of the files being submitted
- The intended purpose of the outputs and proposed sharing routes (if any), e.g. independent publications, websites, and/or conferences
- Any relevant deadlines.

Researchers should ensure that outputs submitted for review comply with disclosure control requirements and are clearly labelled to support the review process. Researchers may also be required to follow a secondary output process as per local data controller agreements, e.g. when using PRANA data. Further specific guidance on this is available from the PRANA team.

Any updates to the standard SDE export process will be captured within this document. You can confirm the current version by emailing: wessexsde@uhs.nhs.uk.

Disclosure Control

Researchers should apply appropriate disclosure control principles when preparing outputs for export.

Particular attention should be paid to:

- Small cell counts
- Rare conditions or events
- Potential indirect identifiers
- Combinations of information that may increase the risk of re-identification

As a general rule, outputs containing counts lower than 10 will not be approved for release. Researchers are encouraged to apply disclosure control principles before submitting outputs for review, as this will help reduce delays during the approval process.

Output Review Process

All proposed exports are subject to review before release from the SDE.

Depending on the nature of the output, this may include:

- Automated checks
- Manual review
- Information governance review
- Disclosure control assessment.

The purpose of this review process is to ensure that outputs can be released safely and in accordance with project approvals, governance requirements, and applicable information governance standards.

Sharing Results Within the SDE

Approved project members can share files and outputs within their project workspace.

Files stored within the shared project folder are visible to authorised study users, while files stored outside the shared project area remain visible only to the individual researcher.

Good Practice

Researchers are encouraged to:

- Apply disclosure control principles during analysis
- Organise outputs clearly within project folders
- Maintain version control for outputs intended for dissemination
- Allow sufficient time for export review when working towards deadlines
- Contact the Wessex SDE team early if large or complex exports are anticipated.