University of Leicester and University Hospitals of Leicester NHS Trust joint Research Support Office Standard Operating Procedures

University of Leicester (UoL) Research Governance Office
SOP S-1030 UoL

Creating a Statistical Analysis Plan (SAP)
for Research Sponsored by the University of Leicester (UoL)

Version 3.2, September 2023

Office Base

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Effective Date: October 2023

This SOP will be implemented in line with this document's effective date for all UoL Sponsored research still in set up. For active clinical research that is already in the recruitment phase (or further) at the time of implementation, this SOP must be implemented within 3 months of the effective date.

1.0 Introduction and Scope

This Standard Operating Procedure (SOP) defines the procedure for the production of a Statistical Analysis Plan (SAP) for all research sponsored by the University of Leicester. There should always be pre-specified statistical methodology documented for a study. This can be detailed in the protocol or in a separate document such as a SAP. If there is not a separate SAP, the protocol must contain all the necessary information on the analysis, including important details such as adjusting for multiple testing and handling missing data, as required. For open label trials, full details of the statistical methods for analysis of trial data should be included in the protocol and changes to the pre-specified analysis once the trial has commenced should be avoided to prevent potential accusations of bias.

2.0 Definition

A SAP is a document that contains a more technical and detailed elaboration of the principal features of the analysis described in the protocol and includes detailed processes for executing the statistical analysis of the primary and secondary data and other variables.

3.0 When must a SAP be produced?

The Chief Investigator (CI), in collaboration with the study statistician must ensure that a SAP is produced during the conduct of the study. The final version must be in place prior to the release of any randomisation codes to un-blind blinded trials. The SAP must be finalised prior to any interim analysis and before database lock. Please note that often Data Safety Monitoring Committees (DSMCs) like to see drafts of the SAP prior to database lock so sufficient time to enable their review and comment should be considered.

NB. Un-blinding individual patients for safety reasons is a separate issue and is dealt within SOP S-1009 UoL.

4.0 How must a SAP be produced?

It is expected that a statistician will be involved at the early stages of study design and protocol development. The SAP must be based on the study protocol statistical considerations section. The CI must ensure that it is finalised following review by appropriate personnel and approved by the statistician and if applicable, the Sponsor. It must be version controlled during its production and it must be clear as to which is the final version.

There is a legal requirement to comply with the study protocol. The SAP must be consistent with the protocol and any analyses in the SAP that are not detailed within the protocol must be notified to the Sponsor, so that a protocol amendment can be facilitated in accordance with SOP S-1018 UoL.

The SAP (and the analysis specified in the protocol for open-label trials) must be followed. Any changes to the planned analysis (post unblinding for blinded trials) must be fully justified and communicated in the report of the results of the trial. This is particularly important if the change is not consistent with the protocol.

5.0 Contents of a SAP

The SAP must be a comprehensive and detailed description of the methods and presentation of data analysis for the study, including both the main and any interim analyses. Subsequent secondary analyses of a more exploratory nature will not be bound by the SAP, although they are expected to follow the broad principles laid down within it.

Typical contents of a SAP include:

- Key study contacts
- Revision history
- Authorship
- Signature Page
- List of abbreviations
- Study Background
- Study design
- Populations
- Flow of subjects
- Research Hypotheses and Data
- Study objectives and Endpoints (Including any exploratory or subgroup objectives)
- Baseline Characteristics
- Treatment Allocation
- Treatment Received
- Efficacy
- Safety
- Interim Analysis
- Statistical Methodology
- References, where applicable
- Appendices, e.g. templates for tables and figures, line listings of AEs/SAEs

The SAP must also state who has overall responsibility for data analysis and which individuals will be performing the data analysis.

6.0 Responsibilities

Responsibility	Undertaken by	Activity
Chief Investigator	Chief Investigator	Ensure a SAP is produced during study in collaboration with a Statistician
Chief Investigator	Chief Investigator	Ensure SAP is finalised prior to interim analysis or database lock
Chief Investigator	Chief Investigator	Ensure that any amendments to the protocol required after production of the SAP are managed in accordance with SOP S-1018 UoL
Sponsor	Head of Research Governance or delegate	Confirm with Chief Investigator during Sponsor Green Light process that SAP has been considered and delegated appropriately
Sponsor	Head of Research Governance or delegate	Ensure amendments to protocol are processed in accordance with SOP S-1018 UoL

7.0 Development and approval Record for this document

This table is used to track the development and approval of the document

Author	Job title	Reviewed by	Approved by	Date approved
Cat Taylor	Head of Research Governance	UoL Research Sponsorship Management and Operation Group (RSMOG)	Professor Nigel Brunskill 	28/09/2023

8.0 Review Record

This table is used to track the changes made on revised/reviewed versions

Date	Issue Number	Reviewed By	Description Of Changes (If Any)
April 2015	2	RSMOG	Minor administrative changes to footer and text. Change to logos, addition of Loughborough University to front page
Nov 2016	3	Diane Delahooke	Removal of reference to Research Governance Framework. Consistency checks against UHL.
Sept 2021	3.1	Cat Taylor	Administrative changes
September 2023	3.2	Cat Taylor	Administrative Changes Minor changes to wording Review schedule updated to 3 years Removal of distribution record