Data Management	CR-401
Clinical Research Standard Practices	**Effective Date:** December 2023

SCOPE AND PURPOSE This document is applicable to the following roles within Penn State College of Medicine and Penn State Health entities engaged in clinical research:

Roles:

X	Principal Investigator	X	Regulatory Specialists
X	Sub-Investigators	X	Key Study Ancillary Personnel
X	Study Coordinators/Associates	X	Financial Analyst/Research Accountants
X	Data Specialists	X	Central Research Office Personnel

This standard operating procedure (SOP) describes the processes followed at this investigative site for the collection of clinical research data, transcription of the data to case report forms (CRFs), and the management of the data. This SOP provides guidance when all or portions of the data are collected, managed and/or transmitted electronically, or include the use of electronic signatures in required records.

This SOP applies to data management (paper and electronic) for all clinical studies during all investigational phases of development. This SOP does not apply to computerized medical devices, diagnostic laboratory devices, or analytical laboratory devices that are used during a clinical trial nor does it apply to paper records that are transmitted electronically.

This SOP may be shared with Sponsors and/or CROs upon request.

POLICY AND PROCEDURE STATEMENTS

1. Collection of clinical research data
    a. Ensure that copies of the most recent IRB-approved consent form are available for subject enrollment. These can be found in CATS IRB library.
    b. Based upon the protocol and case report forms, develop study-specific source documentation, checklists, and logs. Document templates are available on the CTO website.
        i. Record all documentation in black or blue ink pen.
        ii. Correct errors by striking through the error, dating and initialing it, and making the correction. Ensure the original entry is not obliterated. If necessary, note an explanation in the right margin.
    c. Ensure protocol identifies at which steps a computerized system will be used.

2. Transcription of the data to case report forms (CRFs), including remote data entry
    a. Complete all fields in the CRFs according to sponsor specifications.
    b. For paper CRFs:
        i. Record all documentation in black ball point pen. Correct errors by striking through the error, dating and initialing it, and making the

correction. Ensure the original entry is not obliterated. If necessary, note an explanation in the right margin.

ii. Ensure that data for the CRFs are transcribed promptly from the source documentation.

c. For electronic CRFs (eCRFs):

i. Ensure that sponsor-provided computerized systems are used only for the purposes for which they were intended and validated.

ii. Ensure that all annotations to electronic records are attributable as to who and when (date, time) the annotations are made.

iii. Enter all required data into the appropriate fields of eCRFs.

iv. Check and correct (or annotate) all data before transmitting the eCRF to the sponsor.

v. If the sponsor requires remote data entry, ensure that data are entered according to sponsor specifications promptly from the source documentation.

3. Management of the data
   a. Ensure that the first sets of completed CRFs are reviewed for completeness and accuracy when applicable.
   b. If needed, request a copy of the sponsor's SOPs for making changes or corrections to the CRFs.
   c. Ensure that the data clarification forms are kept with the other study records in the regulatory files for this study.
   d. Correct errors to the CRFs noted at the monitoring visit by using the procedures described above.
   e. At the conclusion of the study, ensure that data are retained according to regulatory and sponsor requirements.
   f. Inform the sponsor of the study in writing and obtain approval prior to destroying any study-related data.

4. Sponsor/CRO responsibilities
   a. The following responsibilities are those that must remain with the Sponsor/CRO and cannot be delegated to the study team:
      i. Retain primary responsibility for ensuring computerized systems, used in clinical trial data management in the institution, are in compliance with applicable regulations, as regards design and validation.
         1. Ensure that all annotations to electronic records are attributable as to who and when (date, time) the annotations are made for Sponsor/CRO (including their contracted vender) provided systems.
         2. Ensure the audit trail documents all changes to electronic records (who, when, why) and that the original entries are not overwritten for Sponsor/CRO (including their contracted vender) provided systems.
      ii. Train all clinical research team members on the proper use of all sponsor-provided electronic systems used to capture study data (electronic patient diary, e-CRF), and on the relevant regulatory requirements.
      iii. Train the Study Team to conduct appropriate reviews of electronic data and audit trails at designated time periods.

b. If Penn State is the Sponsor of the study, the PI may delegate appropriate tasks to study team members but will retain ultimate responsibility for such delegated tasks.

5. Investigative site responsibilities when using sponsor data application
    a. Work with sponsor to facilitate setup, implementation and maintenance of an FDA-compliant computerized system.
    b. Work with sponsor to ensure that computerized systems used in clinical trials have a logoff or comparable security function after a designated period of inactivity.
    c. Assign unique and secure User ID/password combination for each clinical research team member who has access to the computerized system(s).
    d. Establish and maintain a schedule for changing each team member's User ID/password combination at appropriate intervals.
    e. Invalidate stolen, lost or otherwise compromised User ID/password combinations and replace with a new combination.
    f. Ensure that proper computer system function is routinely monitored.
    g. Ensure that sponsor-provided computerized systems are used only for the purposes for which they are intended and validated.
    h. If the sponsor requires a cryptographic digital signature or a biometric-based electronic signature rather than a handwritten signature, work with the sponsor to establish and securely maintain that identifier.
    i. Login using his or her unique User ID/password combination or other electronic signature when preparing to perform computer data entry or management functions.
    j. Do not divulge User ID/password combinations to anyone else for any purpose.
    k. Do not use anyone else's unique User ID/password combination or perform any required computer functions under anyone else's User ID/password combination.
    l. Log off when computer data entry/management activities are completed.

6. Investigative site responsibilities when using institutional applications
    a. Retain primary responsibility for ensuring computerized systems, used in clinical trial data management in the institution, are in compliance with applicable regulations, as regards design and validation.
    b. Ensure that all annotations to electronic records are attributable as to who and when (date, time) the annotations are made
    c. Ensure the audit trail documents all changes to electronic records (who, when, why) and that the original entries are not overwritten.
    d. Of note, FDA does not intend to assess the compliance of electronic medical record with 21 CFR 11.

7. Management of the data
    a. Please refer to Cybersecurity and Privacy Training to establish sponsor or sponsor representative access to research-related documents within the electronic medical record.
    b. Ensure that an original paper records are retained on file
    c. If certified copies of electronic source documents were created, ensure that these certified copies (and printed audit trail records, if applicable) are retained on file.
    d. With respect to an FDA audit, treat electronic records as you would paper records.

e. Ensure that changed CRFs display all prior information. Sponsor is responsible for ensuring that all prior information is available for eCRFs.
f. Work with sponsor to ensure that audit trail reviews are performed and documented at defined intervals, if applicable.
g. Retain audit trail records of eCRFs according to regulatory and sponsor requirements, if provided by Sponsor.

RELATED POLICIES AND REFERENCES

Code of Federal Regulations: Electronic Records; Electronic Signatures (21 CR 11)

Code of Federal Regulations: Investigational New Drug Application (21 CFR 312.50, 56, 60, 62, 64, 68, 70)

Code of Federal Regulations: Responsibilities of Investigators (21 CFR 812 Subpart E)

Code of Federal Regulations: Records and Reports (21 CFR 812 Subpart G)

Guidance for Industry: Computerized Systems Used in Clinical Trials; U. S. Food and Drug Administration; May 2007

Guidance for Industry: Electronic Source Data in Clinical Investigations; U. S. Food and Drug Administration; September 2013

Guidance for Industry: Oversight of Clinical Investigations: A Risk-Based Approach to Monitoring; U. S. Food and Drug Administration; August 2013

Guidance for Industry: Part 11, Electronic Records; Electronic Signatures - Scope and Application; U. S. Food and Drug Administration; September 2003

Guidance for Industry: Use of Electronic Health Record Data in Clinical Investigations; U. S. Food and Drug Administration; July 2018

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APPROVALS

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History of Reviews and Revisions

July 2023	
Scope and Purpose	Removed list of entities. Updated "Financial Analyst/**Research Accountants**". Added "Regulatory Specialists" and "Central Research Office Personnel." Notation made that this SOP may be shared with Sponsors and/or CROs upon request.
Policy and Procedure Statements	Subsection "Collecting, filing and storing study-related documents and records" renamed to "General standards" Subsection "Electronic" renamed to include "maintenance of files" Subsection "Sponsor/CRO-provided electronic Trial Management File (eTMF)" added. Clarified that site is responsible for retaining original paper records, certified copied of electronic sources documents, and printed audit trail records of said certified copied of electronic sources documents. that an original paper records are retained on file Clarified that site is responsible for ensuring paper CRFs display all prior information and Sponsor is responsible for ensuring that all prior information is available for eCRFs. Clarified that site is responsible for retain audit trail records of eCRFs only if these are provided by Sponsor.
Related Policies and References	Updated version of "Guidance for Industry: Computerized Systems Used in Clinical Trials" to current version. Added reference of "Guidance for Industry: Use of Electronic Health Record Data in Clinical Investigations" Reformatted reference "Guidance for Industry: Part 11, Electronic Records; Electronic Signatures - Scope and Application."
History of Reviews and Revisions	Section added.