

SDV – The ALCOA Principles

Presentation engine can be viewed at the following link

<http://insidepra/prainstitute/dev/CLN142/SDV.html>

- **Opening Introductory Audio**

Welcome to CLN 142 where we discuss the ALCOA principles. Before you will be able to start, let us establish some rules of the road.

The course is laid out with seven subject modules. There is also a final exercise and an assessment test. You navigate the course by clicking a road sign to enter a subject module. Once within a module you will be presented with a compass rose offering further navigation options. If a caution sign is present within the module, clicking it will present you with additional information. The progress indicator at the bottom of the module can be dragged to move forward or backward within that module. You must complete all modules and exercises to be able to complete the final exercise and assessment test. Modules which have been completed will be noted with a checkered flag on its road sign on the screen you are now viewing.

You can exit the course at anytime. When you return you will automatically be directed to the point in the course at which you left.

- **Goals**

In this course we will examine each of the ALCOA principles and the role it plays in source document verification. We will present some insights to and examples of those practices failing to adhere to these principles. In the final Exercise we simulate the source document verification process, focusing on these poor practices. The goal; to familiarize you with these principles to facilitate your study monitoring.

- **Introduction**

ICH GCP lists one of the primary responsibilities of monitoring as verifying the reported trial data are accurate, complete, and verifiable from source documents. Any data, documents, or records created as the first point of data entry during the course of a clinical trial are to be considered source documents. The nature of the data may be varied. Subject medical history forms, laboratory reports, and tracking on the storage and administration of the investigational product are a few examples. The scope of what may be considered a source document is far reaching. It is one of your roles as a

Clinical Research Associate to identify viable data, document it, determine its validity, and ensure the its integrity.

Source documents are absolutely critical to the credibility of clinical data.

Source Document Verification encompasses verifying the Case Report Form data by comparing source document data to the data reported within the CRF. This ensures confidence in data presented and the conclusions reached in a study.

Some helpful guiding principles in the conduct of Source Data Verification include ensuring the data is Attributable, Legible, Contemporaneous, Original, and Accurate, hence the acronym, ALCOA.

- **Attributable**

All data collected must be attributable to the person who collected it. The data's validity can only be assured if the party that made the measurements and recorded the data is qualified by education, training, and experience.

Additionally if the party is not the Principle Investigator, they must be appropriately delegated to perform that task by the PI. This attributability is accomplished via their dated signature or their initials recorded on the source document. This applies to both paper and electronic source records.

In the case of an electronic source record, the system must per 21 CFR 11 guidelines, maintain an "audit trail" of the data entry by recording the user, date, and time of the entry and any changes thereafter.

Consider this scenario, during the course of your monitoring you notice a subject's physical examination data is recorded in the handwriting of the study coordinator and the physician has signed and dated the form.

To whom is the recorded data attributable to? Is the study coordinator qualified to perform the data collection? The integrity of the data can easily become questionable if it is not directly attributable to the responsible party.

- **Legible**

As the data recorded in source documents is critical to the study outcome, and more importantly to the welfare of the study participants, it is important source documents be easily readable.

If corrections are necessary when recording data, the errors should have a single line drawn through them and should be initialed and dated. Having legible source documents will facilitate the review process.

Though this principle is important, achieving it should not come at the cost of diminishing attributability or other principles we've yet to discuss.

Consider this; you are presented with a flow sheet containing all vital signs for a subject over the course of his stay in the ICU. The document is very clear and legible, and all the data points are properly recorded per the designated times listed in the protocol. Reviewing it and comparing it to the CRF data should be a simple task. However, you discover that the original data was captured in a different document. The Study Coordinator noted that the data was illegible and re-wrote it into a new document to make it easier for you to read. Although legible, the document you were given is no longer attributable, original, and may not be accurate.

- **Contemporaneous**

Data can only be assumed credible, if it is recorded at the time a measurement or action is taken. Source documents should clearly reflect that data was recorded at the time it was obtained. Lapses of time noted between seemingly concurrent events are issues of concern. Likewise this would be the case for non-concurrent events whose data is recorded within the same time frame.

Imagine the following situation. You are reviewing a patient's records. On one visit date The PI collected vital signs and dispensed IP. You see a note from a sub-investigator dated 7 days following, discussing an adverse event and physical exam information.

When did the AE and exam discussion occur? Was it on the date of the noted visit, or did the subject return for another visit? If the note was written a week later, how valid is the data contained in the note? Does the PI remember the details of a physical exam and AE conversation seven days after the fact? This data is not contemporaneous.

- **Original**

The very first time a study data point is recorded, that medium becomes the source document. It doesn't matter whether the medium is a post it note, a table napkin, a subject's chart or electronic medical record.

Transcribing data presents the possibility of data entry or typing errors. A photocopy of a medical chart may have been complete at the time it was

photocopied, but additional information may have been added to the original chart at a later date, that would not be present on the copied version.

Whatever document was used to originally record the data should be maintained in the subject's study record as the source document. It is these documents which will be used to monitor data.

Certified copies or "Shadow Copies" of source documents may be acceptable for a period of time, but periodic reviews need to be made between the shadow copies and the originals to ensure they are complete and accurate.

- **Accurate**

An accurate source document has data that is true and correct. It will be complete in its context. In situations where there are multiple documents recording the same data, they will be in agreement with each other. As demonstrated in the previous discussions, an accurate source document will be adherent to all other ALCOA principles.

- **Final Exercise**

In this final exercise you will be presented with Case Report Forms and associated source documents. Your goal is to match the CRF to the appropriate source documents and to identify those errors present on the CRF. The data on the CRF may come from one or more source documents. Click the appropriate tab above to select either the CRF or source documents. Page forward through the available source documents by clicking on Select Source, when visible. Holding the Ctrl key while clicking will allow you to page backwards. Once you have identified the matching source document, click on the noted errors in the CRF. When you have successfully matched the documents and located all the errors on a given CRF, the Next button will reappear allowing you to advance. When you have completed the exercise you will be presented a link directing you to the assessment test. Click Next to begin.

▪ **Assessment Test**

1. Why is Source Document Verification performed?

Select all applicable responses.

- a. To provide confidence in the data reported.
 - b. It is an ICH / FDA requirement.
 - c. The study sites desire it
 - d. To ensure study data is verifiable
2. You are reviewing a patient's physical exam and you note there are no references to the physician. What ALCOA principles are not being adhered to?
- a. Attributable
 - b. Legible
 - c. Contemporaneous
 - d. Original
3. While reviewing a case file, you encounter what appears to be a non-certified photocopy. What ALCOA principle is not being adhered to?
- a. Attributable
 - b. Legible
 - c. Contemporaneous
 - d. Original
 - e. Accurate
4. While reviewing a drug administration form you note a blotch of white-out over which has been written the Investigator's initials. What ALCOA principles have been violated?
- a. Attributable
 - b. Legible
 - c. Contemporaneous
 - d. Original
 - e. Accurate
5. Under no circumstances may a photocopy be considered a source document. Is this statement is true or false?
- a. True
 - b. False

6. An electronic device containing data to be reviewed as source does not necessarily need to be 21 CFR 11 compliant. Is this statement is true or false?
 - a. True
 - b. False
7. At a site, the study coordinator accompanies the PI as he makes his rounds. The coordinator makes all changes to notes in the patients file. To whom is the data attributable?
 - a. The Principle Investigator
 - b. The coordinator
 - c. Both
 - d. Neither
8. While reviewing a patient's history, you note some data entries, which you noted as incomplete on a previous visit. There are no notations as to when or by whom the data was entered. What ALCOA principles are not being adhered to?
 - a. Attributable
 - b. Legible
 - c. Contemporaneous
 - d. Original
 - e. Accurate
9. The Case Report Form can never be used as a source document. Is this statement is true or false?
 - a. True
 - b. False
10. An accurate source document will never have corrections noted on it. Is this statement is true or false?
 - a. True
 - b. False