Preparing Data for Submission to the FDA
Its More Than SDTM

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Abstract

NDA data submissions to the FDA begin with a data check using the OpenCDISC validation tool. The data are further reviewed by FDA staff during a 45-day interval to determine whether the NDA will be permitted to proceed. During this period of time, FDA staff will perform additional levels of data quality checking to ensure that the review will proceed quickly and efficiently. A set of procedures used by the FDA to identify problems of data consistency and completeness can be broken down into five major categories:

Content Analysis:
Evaluation of supplemental and custom domains for important content and determination of whether the supplemental or custom data can be fit into a standard domain

Fuzzy Matching:
Validation that original text has been appropriately transformed to standard values

Missing Data:
Verification that missing data are not treatment-dependent

Statistical Consistency:
Assessment of data consistency using various statistical methods

Event Reconciliation:
Confirmation that time-related events occur sequentially

In this poster we provide an overview on how these reviews can be performed by the sponsor prior to submission.

Questions

Using the statistical nature of the domains, it is possible to address some fundamental questions about each domain according to the data that are supposed to be collected:

- Are “extra data” appropriately located?
- Is there statistical reliability associated with the entry of information in the xxdecode entry and the text entry of the actual values recorded by the study staff?
- Is there temporal consistency with reporting the start and stop times of exposures and onsets and endings of Adverse Events?
- Is there any evidence that data might not be missing at random?

Write a Series of Oracle and SAS Marcos
To Check Incoming SDTM Data

Content Analysis

- SAS Macro Custom Domain
- Table Cat by TRT by Decod by Occur

Fuzzy Matching

- Oracle Procedure
- Compare Text to IG list (e.g., MedDRA)

Missing Data

- SAS Survival Analysis Macro
- Make Withdrawal Analysis Code the “event” and the Event Code the censoring variable

Statistical Consistency

SAS Macro to Review number of times on and off study meds.

Event Reconciliation

- An event must end before another event of the same type can start.
- Oracle Procedure: count number of times two AE intervals of the same type overlap.

Conclusions

The standardized format and meanings generated by CDISC SDTM allow the sponsor to generate sophisticated programs to review data before it is submitted to the FDA. The ability to generate and present these types of analyses will allow FDA and the sponsor to effectively communicate problem findings which may reduce the review time.

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