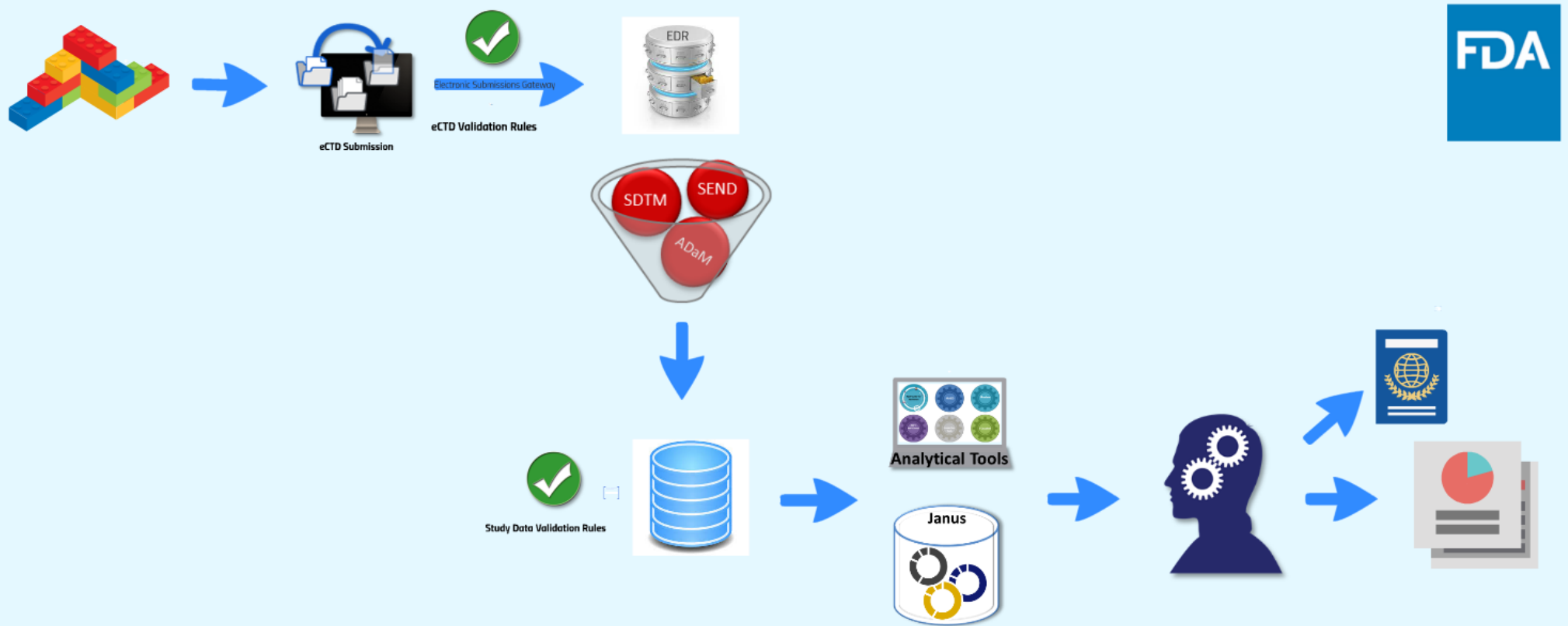






FDA

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**Final Published  
Dec 17, 2014**

**FDASIA Guidance**

**Final Published  
May 5, 2015**

**24 months** after  
final guidance,  
sponsors must use  
standards identified  
by FDA (NDAs,  
ANDAs, BLAs)

### eStudy Guidance

Binding Guidance – Requires that studies are compliant with the standards outlined in the FDA Data Standards Catalog.



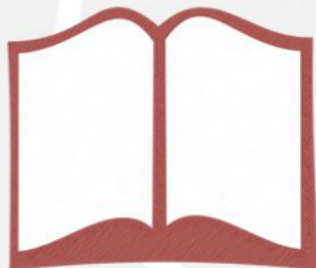
### eCTD Guidance

Binding Guidance – Requires that content be submitted to the agency electronically in the format specified in the guidance.



### Data Standards Catalog

Lists supported and/or required standards.



### Technical Conformance Guide

Provides specifications, recommendations, and general considerations on how to submit standardized study data.



# PhUSE Health Data Research

**Evaluation of Alternative Transport Formats:** In order to evaluate the proposed alternatives we are going to define a set of criteria which the existing and proposed transport formats can be evaluated against. While this is not the use cases we would have desired, we think it should function as a useful proxy. These are being developed in a series of meetings and will be released for public comment at the completion of the internal proposal. We will release the set of criteria, along with the definitions thereof as part of a survey allowing the industry to rank the criteria. Using ranked criteria, we can subjectively evaluate any suggested replacements; but with the subjective view reflecting the priorities of the wider industry.

**Development of a Clinical Development Design (CDD) Ontology:** Facilitating information sharing requires a standardised information model. Information modelling today focuses on individual clinical trials, and the representation of clinical trial data. Although work is ongoing to expand standards to cover the protocol, these are insufficient to capture the objectives, rationale, and design thinking behind clinical programs. The Clinical Development Design (CDD) Framework aims to provide structure and rigour to the design of clinical research, more specifically clinical development programs consisting of clinical trials and the interventions before clinical trials that are needed in implementation of the clinical research project. The CDD Framework explores the gaps and challenges in design practices supported by templates, documents and unstructured tools.

**Representing Clinical Program Design in RDF:** Developing an RDF information model to capture, retain, reuse and share the design of clinical programs.

**Test Submission Forum Group:** Submitting data to regulatory submissions in electronic format for Nonclinical Data (SEND) is fast approaching. Both the Industry and the FDA are looking to ensure that the transition is smooth. To that end, the FDA had indicated that test submissions can be made to not only aid the industry in reviewing their process, but also aid the agency with their process as well. To date there has not been many test submissions made. Our team will dive into the barriers that maybe associated with completing test submission as well as investigate ways to demystify the process.

**Test Dataset Factory:** Several CS Projects develop and specify medical research methods, features, or processes, and some even create software components or subsystems for common tasks in drug development. As part of these efforts, a variety of SDTM or ADaM test datasets are required. The typical fallback position of project teams is to use data from the CDISC pilot project and/or anonymised study data that are provided by project team members. The Test Data Factory project aims at providing test data formatted in SDTM and ADaM, that support a more systematic and comprehensive testing of these concepts and scripts.

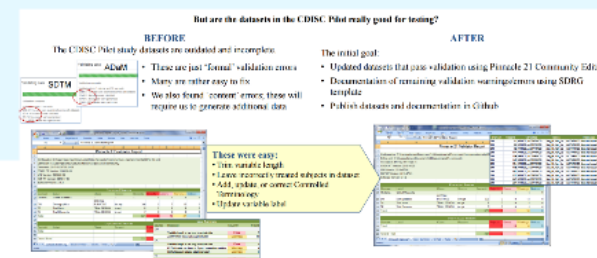
## CDISC Standards in RDF

1.0 Release Date: 18 Jun 2015

Version 1.0 of the CDISC Standards in RDF, prepared by the PhUSE CS Semantic Technology Working Group, consists of two documents:

- **CDISC Standards in RDF Reference Guide v1 Final** - provides a reference to the representation of the existing foundational CDISC standards in a model based on the **Resource Description Framework (RDF)**.
- **CDISC Standards in RDF User Guide v1 Final** - describes how to access and use the RDF files and provides background on their creation.

| File                                                            | Size     |
|-----------------------------------------------------------------|----------|
| <a href="#">CDISC Standards in RDF Reference Guide v1 Final</a> | 3.44 MB  |
| <a href="#">CDISC Standards in RDF User Guide v1 Final</a>      | 4.43 MB  |
| <a href="#">CDISC RDF v1 Public Review Comments</a>             | 27.52 KB |



# FDA Data Standards Research and Collaborations

## Research and Collaborations

The purpose of the study data standards is to enable the exchange of data between researchers and FDA. These tools aid in research and collaboration.

- [Data Standards Research Areas and Collaborations](#) - Ongoing FDA study data exchange standards research and development activities.
  - [DS-XML Pilot Final Report \(PDF - 152KB\) \(Apr. 2015\)](#) - Test Report for DS-XML Pilot Center for Drug Evaluation and Research (CDER) Center for Biologics Evaluation and Research (CBER).
  - [Study Design Standard](#) - Health Level Seven (HL7) Study Design Structured Document Standard (SDSD) captures both structured and unstructured information on the design of an investigational study.
  - [Stability Data Standard](#) - HL7 standard to facilitate the processing and review of stability data.
  - [Study Participation Standard](#) - Information about experimental units, investigators, and other relevant entities that are involved in the conduct of an individual study.
  - [Subject Data Standard](#) - Information on an individual study subject, including observations, substance administration, supplies, and procedures.
- [Janus Clinical Trials Repository](#) - Data warehouse for subject-level clinical trial data submitted to FDA as part of marketing applications. The repository provides FDA staff easy access to clinical trial data to support regulatory review and to support analyses across studies that address public health and research questions as they emerge.

## Data Standards Research Areas and Collaborations

[f SHARE](#) [t TWEET](#) [in LINKEDIN](#) [p PIN IT](#) [e EMAIL](#) [p PRINT](#)

### Study Data Exchange Standards Currently Under Development

1. The following resources support ongoing FDA study data exchange standards research and development activities within HL7. These standards are currently not utilized for regulatory submissions of study data.

The purpose of the study data standards is to exchange data between researchers and FDA. The human and animal study data will be stored in the Janus Clinical Trials Repository (CTR), a repository, which allows users to generate views for analysis with different end-user tools.

One of the important goals of FDA in the development and adoption of standards based on Health Level Seven (HL7) Reference Information Model (RIM) is to support meaningful information representation and exchange between systems in use by clinical researchers, FDA (Janus CTR) and health care providers (electronic health record systems).

Since 2007, FDA has collaborated with CDISC and other stakeholders within the HL7 Regulated Clinical Research Information Management (RCRIM) Workgroup on the development of study data exchange standards based on HL7 version 3. General RCRIM Workgroup information is available at <http://www.hl7.org/Special/committees/rcrim/index.cfm>.

Highlights on study data exchange standards development activities are available below.

[Study Design Standard](#)

[Study Participation Standard](#)

[Subject Data Standard](#)

[Individual Case Safety Report Standard](#)

### 2. CDISC DS-XML Study Data Exchange Pilot evaluation.

Following a Federal Register Notice, FDA held a public meeting on November 5, 2012, entitled "Regulatory New Drug Review: Solutions for Study Data Exchange Standards." The purpose of the public meeting was to solicit input from industry, technology vendors, and other members of the public regarding the advantages and disadvantages of current and emerging open, consensus-based standards for the exchange of regulated study data. FDA indicated, in the Notice and at the meeting, based on feedback received at the public meeting and other information sources, it would undertake further requirements analysis in support of expected evaluation projects.

In 2014, FDA published a Federal Register Notice requesting participation in a pilot project to evaluate CDISC Dataset XML. FDA envisioned several pilot projects conducted to evaluate new transport formats. A successful pilot may allow CDER and CBER to routinely receive study data that employ CDISC Dataset XML format as the transport format once an alternatives analysis is completed. As part of this pilot, FDA requested sponsors to prepare and submit previously submitted study datasets using the Dataset XML transport format. Participation in this pilot was outside of the regulatory pathway and, as such, had no bearing on regulatory decisions.

The testing period for the pilot project completed in November 2014 and the report can be found here: [DS-XML Pilot Final Report](#).

3. FDA is exploring semantic web technologies for study information exchange. Further details to follow soon.

# Preparing Data for Regulatory Review

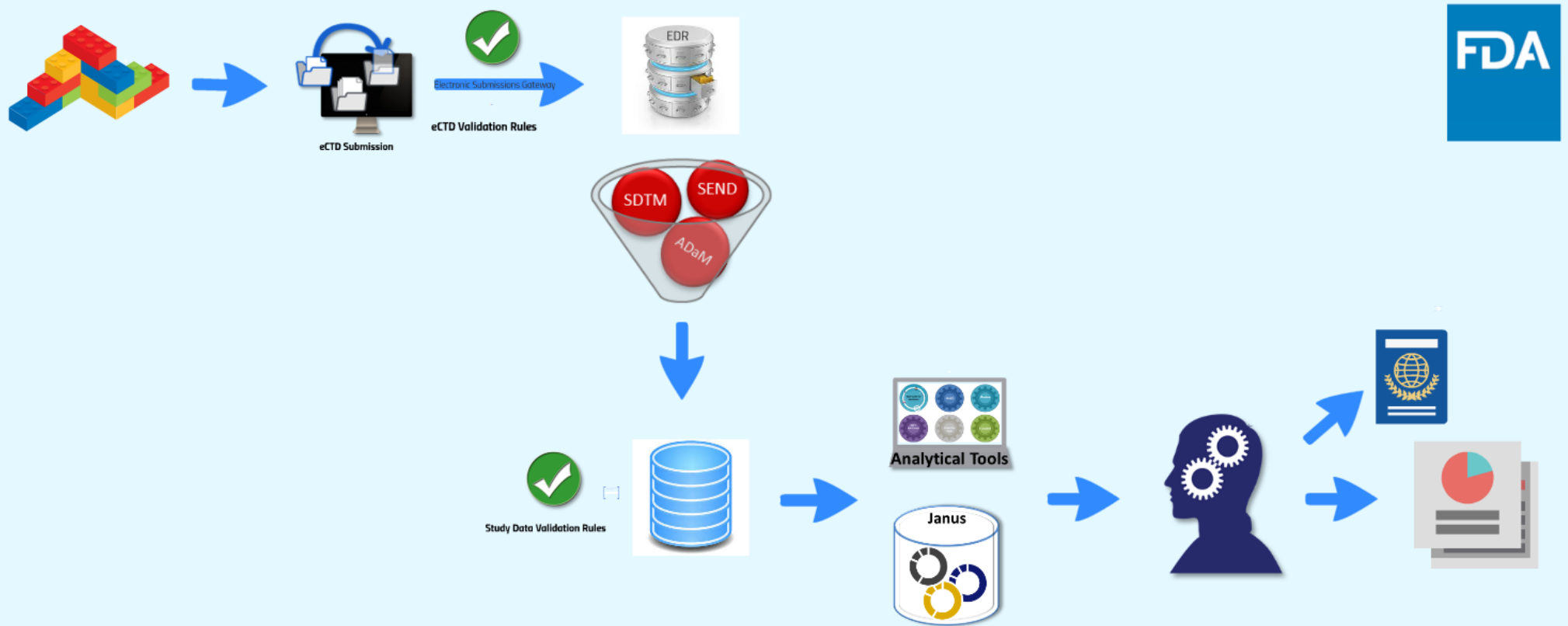
**Best Practices for Data Collection Instructions (New Project):** CDISC's CDASH team provides high level completion instructions related to the core data collection modules. The PhUSE Standard Analysis and Code Sharing Working Group has developed recommended displays (i.e., tables and figures) and associated code for use for analysis for data common across therapeutic areas. For some data domains, having more consistent collection instructions at a more detailed level will potentially lead to increased efficiency (site personnel won't have to learn as many collection methods) and fewer queries (less confusion by site personnel). It will enable sponsors to fully leverage the recommendations and code from the PhUSE Standard Analyses and Code Sharing Working Group. This project will create a white paper documenting challenges and gaps with the CDASH CRF completion as well as recommendations for a future version of CDASH. The white paper will be provided to CDISC for their consideration. The domains that will be addressed are adverse events, medical history, concomitant medications, study disposition, pregnancy, reasons for permanent discontinuations from study treatment.

**SDTM ADaM Implementation FAQ:** Standard Implementation nuances exist across the multiple available versions of SDTM and ADaM. The project team will establish a framework for the collection, compilation, assessment, responding to, and publishing common SDTM and ADaM implementation challenges/nuances. This is important for Sponsors that are still transitioning to newer versions of standards (e.g. SDTM), as well as the vast majority who have to govern multiple versions, even for a single product or application. This is a joint project between PhUSE and CDISC. 5 primary categorical areas will be used for the FAQ's:

- 1) **Data Submissions** (SDTM and ADaM)
- 2) **Validation / Conformance** Rules
- 3) **SDTM / ADaM IG Nuances**
- 4) **Legacy SDTM Mapping**
- 5) **Trial Design Domains**

**SEND Implementation User Group:** Users start with only the implementation guide to use when implementing SEND. Having places to go for new users, (e.g. a forum, Wiki, FAQ, PhUSE website, etc) will substantially help users navigate the pitfalls of implementation. Users will have a clear path to go for assistance with SEND implementation, with the ability to ask questions, receive answers, discuss issues, and learn more about common implementation issues.

**Data Consistency: SEND Datasets and the Study Report:** Identify and address inconsistencies between the study report and the SEND datasets. Determine which would be acceptable and which are not. Develop potential solutions for how companies go about fixing the ones that are not deemed acceptable.



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# WHAT ARE THE eCTD SPECIFICATIONS?



## eCTD Guidance

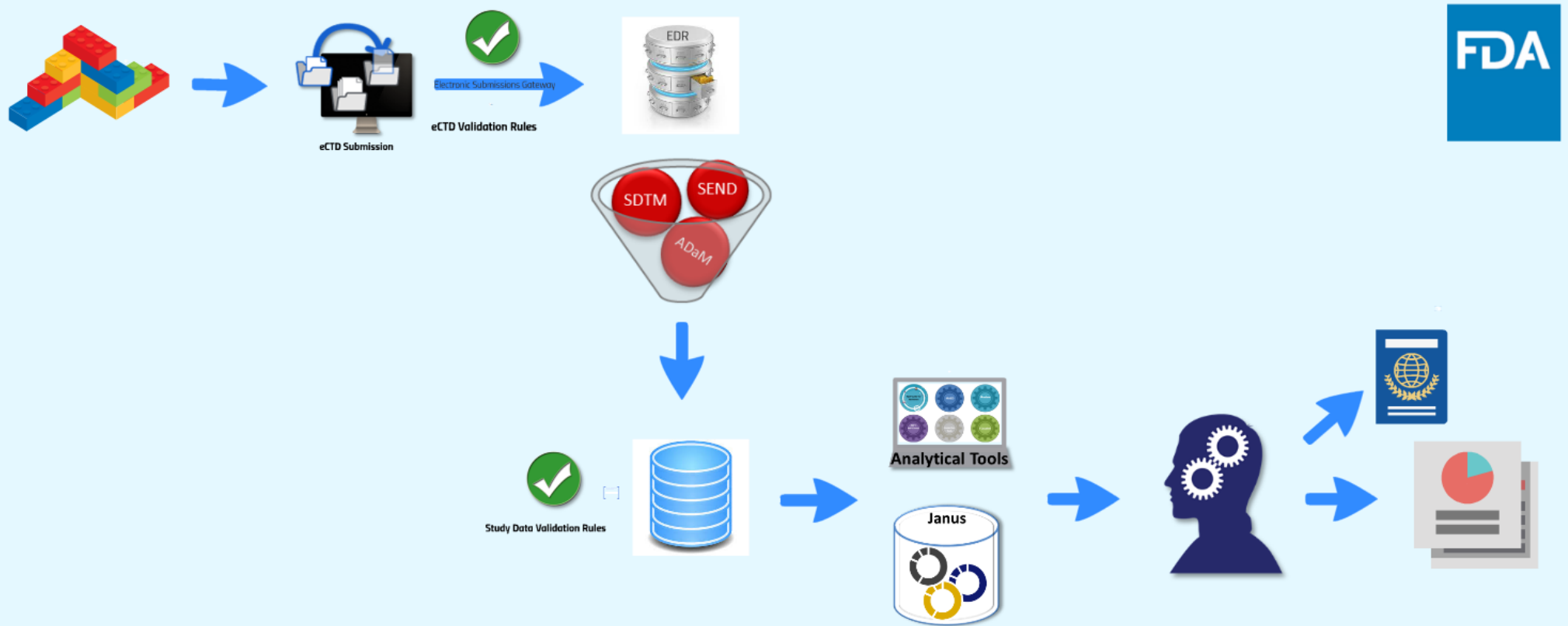
Binding Guidance requires the electronic submission of NDAs, BLAs, ANDAs, INDs, and DMFs in eCTD format.

ICH eCTD Specs 3.2.2  
ICH eCTD Study Tagging Files  
FDA eCTD - Module 1  
eCTD CTOC  
Validation, File Format, PDF  
Supportive files & more

## Data Standards Catalog

Lists supported and/or required standards.

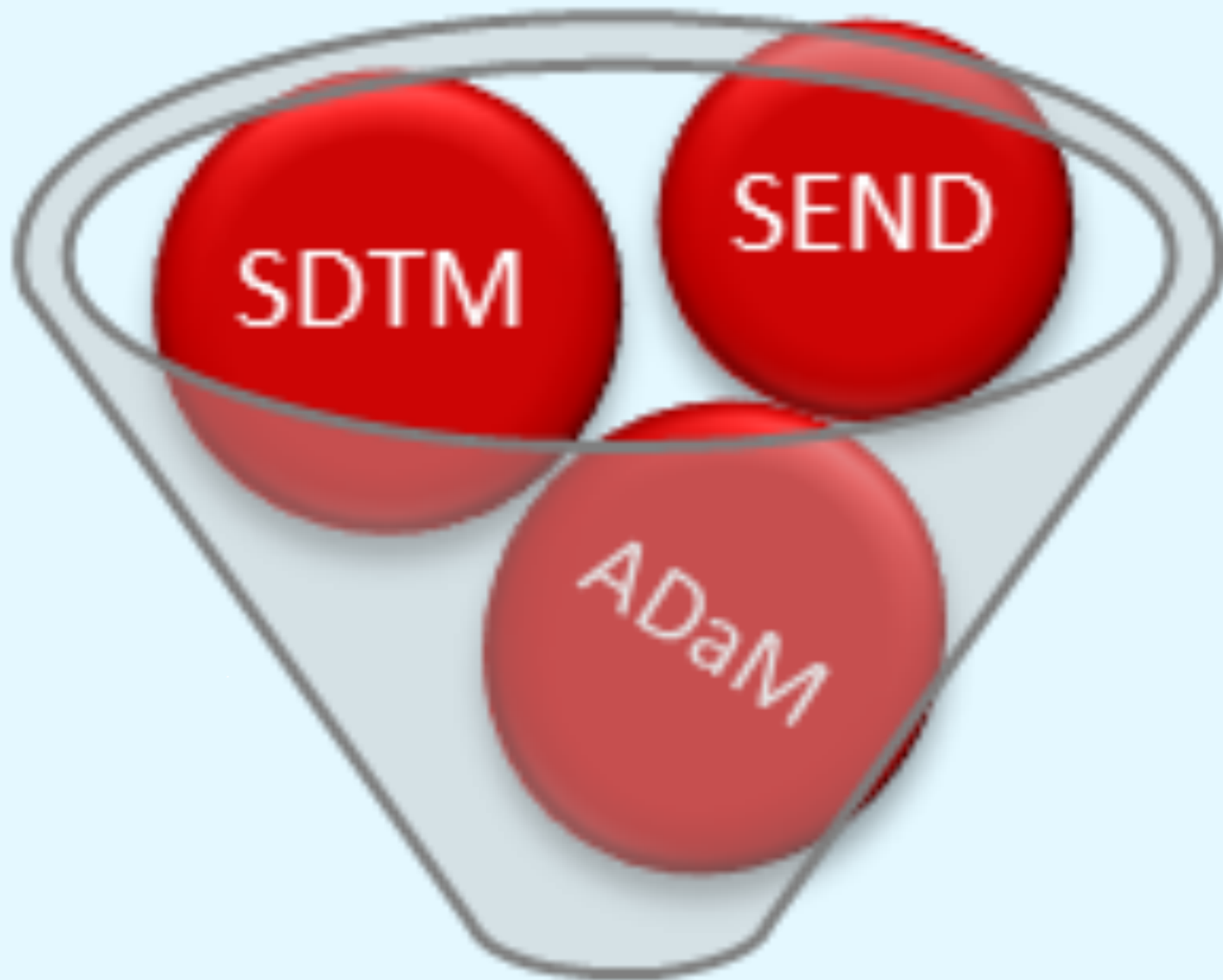




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# EDR





# Data Standards Catalog

Study Data...SDTM, ADaM,  
SEND, Define.XML

| FDA Data Standards Catalog v4.8.1 (08-31-2016) - Supported and Required Standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                             |                                  |                                              |                   |                                                               |               |                                  |                                |                                    |                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----------------------------------|----------------------------------------------|-------------------|---------------------------------------------------------------|---------------|----------------------------------|--------------------------------|------------------------------------|----------------------------------------------------------------------------------|
| This catalog contains a listing of the data exchange, file formats and terminology standards supported at FDA. These standards have gone through all the steps necessary to make them part of the regulatory review process, including posting of regulatory guidance documents and associated implementation guidelines and technical specifications. The submission of data formatted into any one standard or format is to be made by either letter or email, should be discussed with the Agency in advance. This catalog is incorporated by reference in the guidance in industry. Providing Regulatory Submitters in Electronic Format: Standardized Study Data ( <a href="http://www.fda.gov/oc/ohrt/submittingStudyDataSACV481.pdf">http://www.fda.gov/oc/ohrt/submittingStudyDataSACV481.pdf</a> ) |                                             |                                  |                                              |                   |                                                               |               |                                  |                                |                                    |                                                                                  |
| Use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Data Exchange Standard                      | Exchange Format                  | Interchange Development Guidelines (IDG)     | Supported Version | Implementation Guide Version                                  | FDA Center(s) | Data Support Begins (MM/DD/YYYY) | Data Support Ends (MM/DD/YYYY) | Date Requirement Ends (MM/DD/YYYY) | Regulatory Reference and Information Source                                      |
| Regulatory Applications (IND, NDA, ANDA, BLA, Master File)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Electronic Common Technical Document (eCTD) | Extensible Markup Language (XML) | International Conference Harmonization (ICH) | 3.2.2             | IG2 eCTD: Electronic Common Technical Document Specifications | CDER, CBER    | 8/6/2008                         |                                | 8/6/2020 [17]                      | Electronic Submission Checklist for eCTDs<br>Technical Document (eCTD)           |
| Product Labeling Submissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Structured Product Labeling (SPL)           | XML                              | Health Level 7 (HL7)                         | Release 5         |                                                               | CDER, CBER    | Ongoing                          |                                | 8/6/2008 [17]<br>12/1/2009 [18]    | Structured Product Labeling (SPL) Implementation Guid with Validation Procedures |
| Pharmaceutical Reporting Adverse Events for Medical Devices                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Individual Case Safety Report               |                                  |                                              |                   |                                                               |               |                                  |                                |                                    | Electronic Medical Device Reporting (eMDR), Device Reporting and Guidance        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                             |                                  |                                              |                   |                                                               | NIA           | CDRH                             | Ongoing                        |                                    | Veterinary Adverse Event Reporting (VAERS) Handbook                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                             |                                  |                                              |                   |                                                               | NIA           | CDRH                             | Ongoing                        |                                    |                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                             |                                  |                                              |                   |                                                               | CH, CDR       | CDER, CBER                       | Ongoing                        |                                    | FDA Adverse Events Reporting System (FAERS) Database Submissions                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                             |                                  |                                              |                   |                                                               |               |                                  |                                |                                    | FDA Adverse Events Reporting System (FAERS) Database Submissions                 |

## Data Standards Catalog

Lists supported and/or required standards.

[www.fda.gov](http://www.fda.gov)

# Technical Conformance Guide

## STUDY DATA

### TECHNICAL CONFORMANCE GUIDE

Technical Specifications Document

This Document is incorporated by reference into the following  
Guidance Document(s):

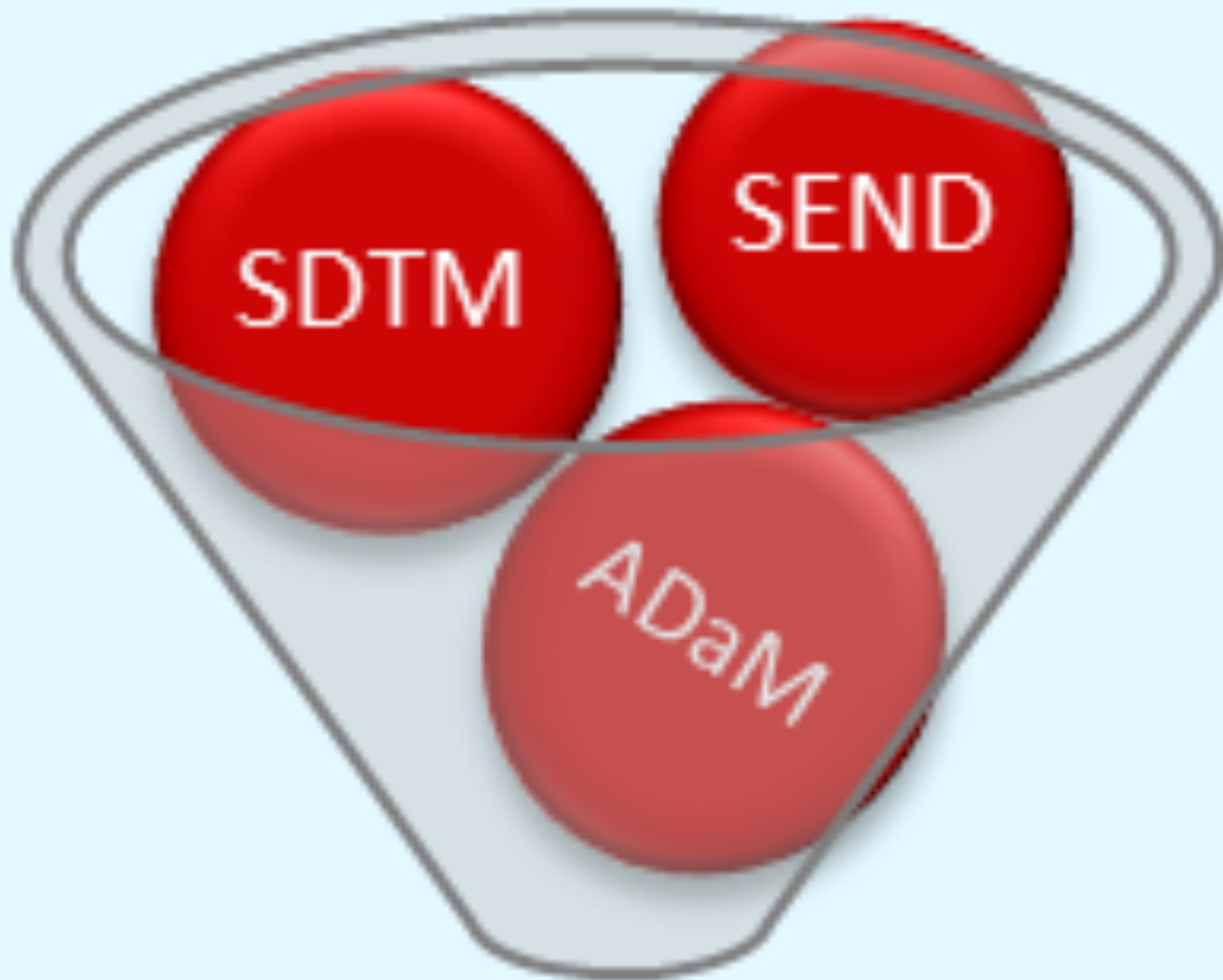
*Guidance for Industry Providing Regulatory Submissions in Electronic  
Format – Standardized Study Data*

For questions regarding this technical specifications document, contact CDER at [cdet-relations@fda.hhs.gov](mailto:cdet-relations@fda.hhs.gov) or CDER at [cdet.cdc@fda.hhs.gov](mailto:cdet.cdc@fda.hhs.gov)

## Technical Conformance Guide

Provides specifications, recommendations, and general considerations on how to submit standardized study data.



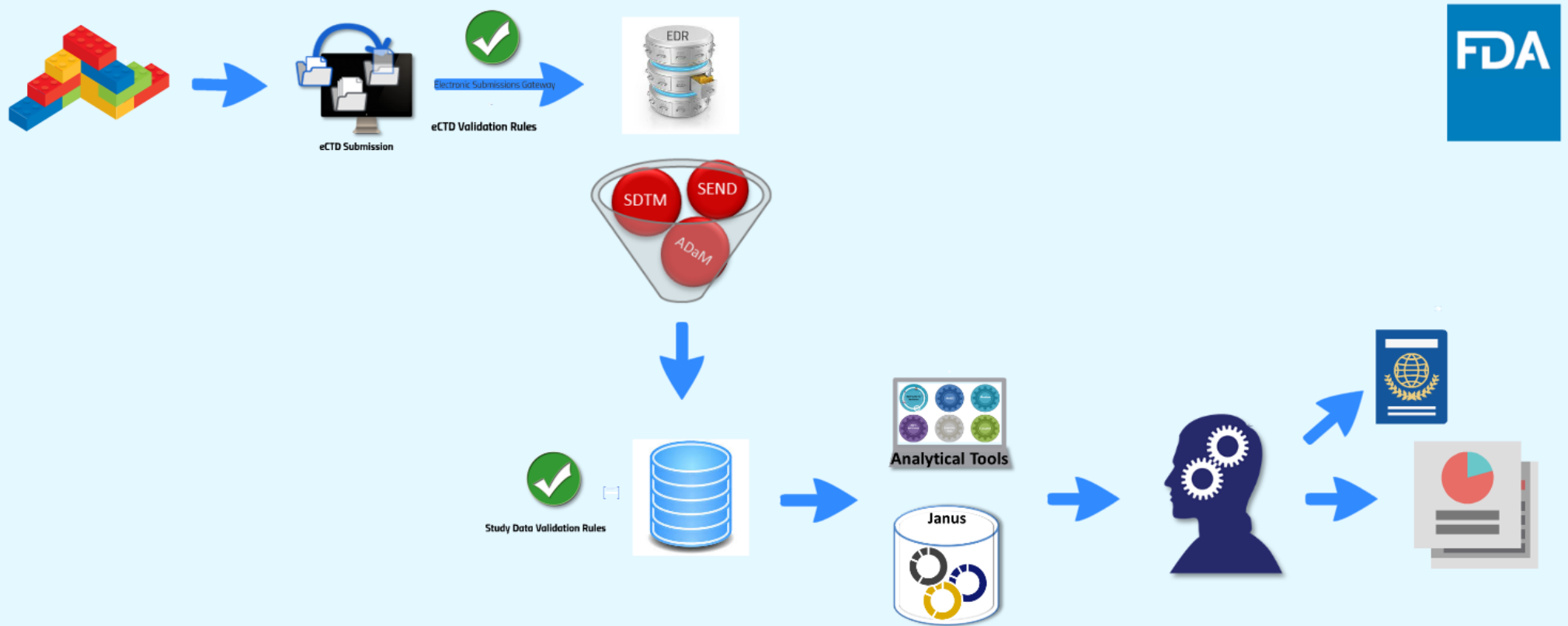


# The Data Funnel

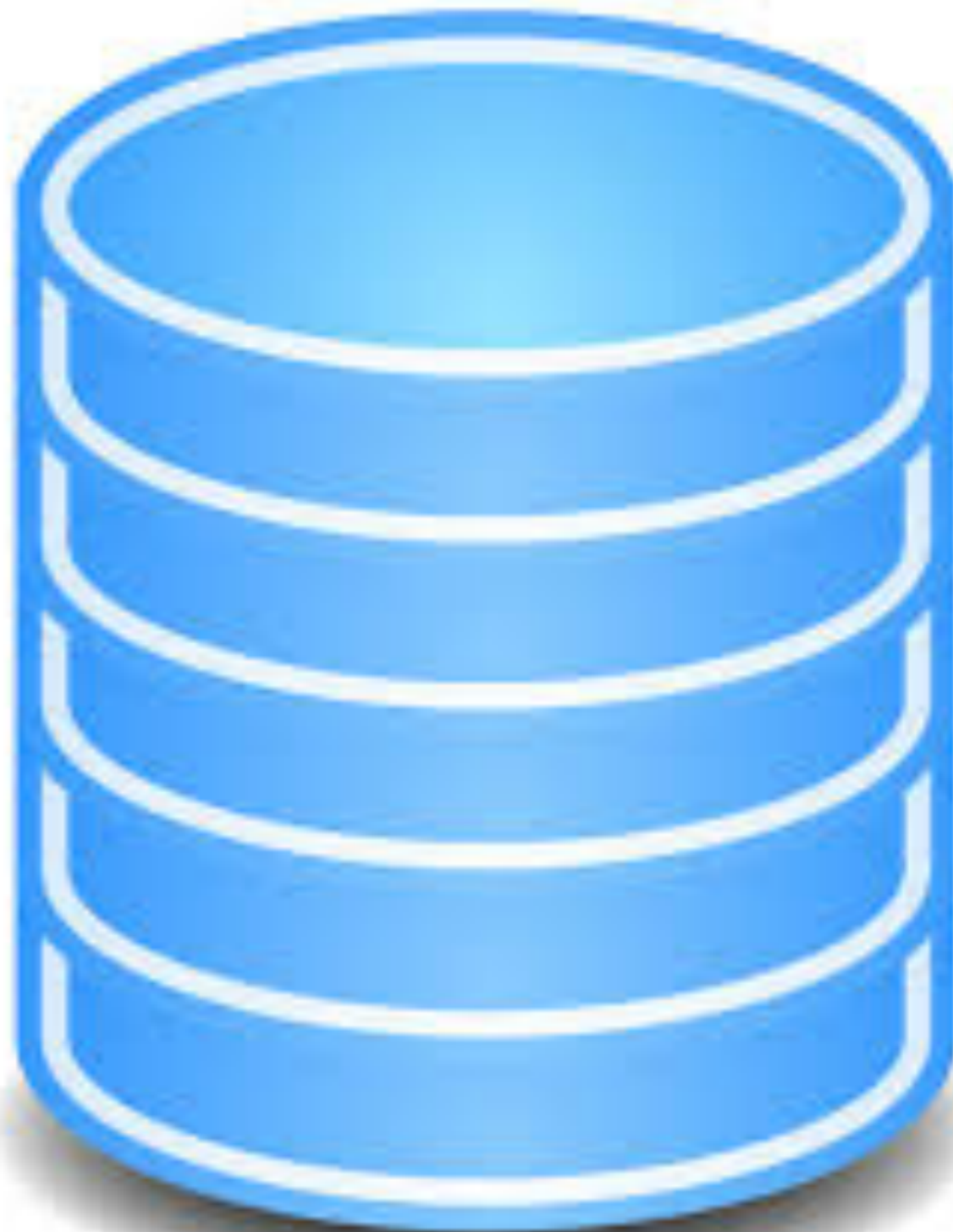
**Evaluating the USE of FHIR in Clinical Research (New Project):** Increasing interest in eSource keeps the issue of data integration between Research Systems (EDC, CTMS, CDMS, etc) and healthcare systems (EHR, etc) as a consistent want for Sponsors clinical investigators and Regulators. The new PhUSE project 'Evaluating the Use of FHIR in Clinical Research' will look at how the HL7 FHIR standard could be used as a fundamental part of the clinical trial process in the future. This group will meet as part of the CSS to define how the project will proceed for the remainder of 2017. We invite anyone with an interest in EHR, Clinical Trials and eSource to join us.

**Clinical Trials Data as RDF (New Project):** SDTM domain data as Resource Description Framework (RDF) has the potential to create highly compliant, high-quality submissions. Graph data can be mapped to versions of the standard, reducing costly recoding. Creation of Define documentation becomes a graph-based query when the proper metadata is integrated into the model. Costs for data review, validation, and rework will be greatly reduced.



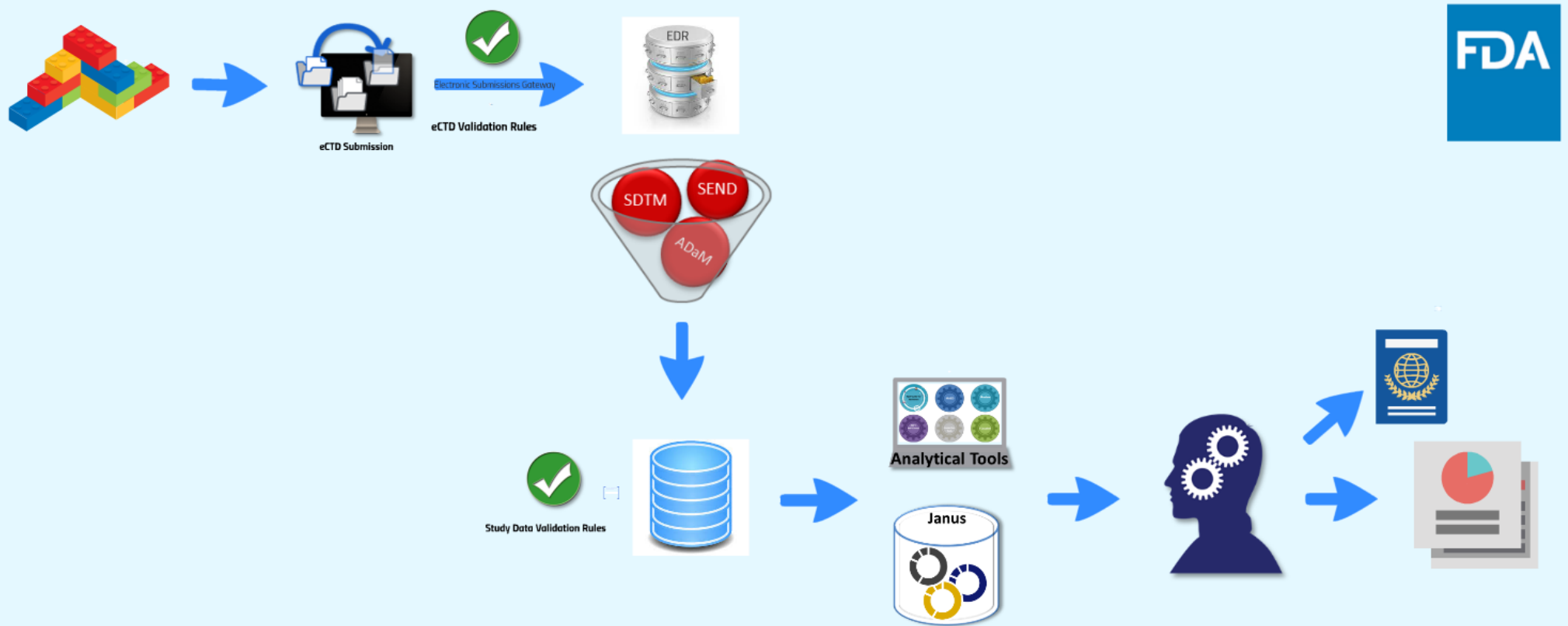


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# Machine Readable Metadata

**Data Reviewers Guide in XML:** This project will develop the Data Reviewer's Guide (i.e., SDRG and ADRG) in an XML format for regulatory submissions. Furthermore, this project will identify and develop style sheets, elements and semantics capability. This project will also assess a more cohesive cross-documentation data exchange between the define.xml and data reviewer's guides in an XML format. The project intends to use the existing Analysis Data Reviewer's Guide (ADRG) and Study Data Reviewers Guide (SDRG) as it's basis.



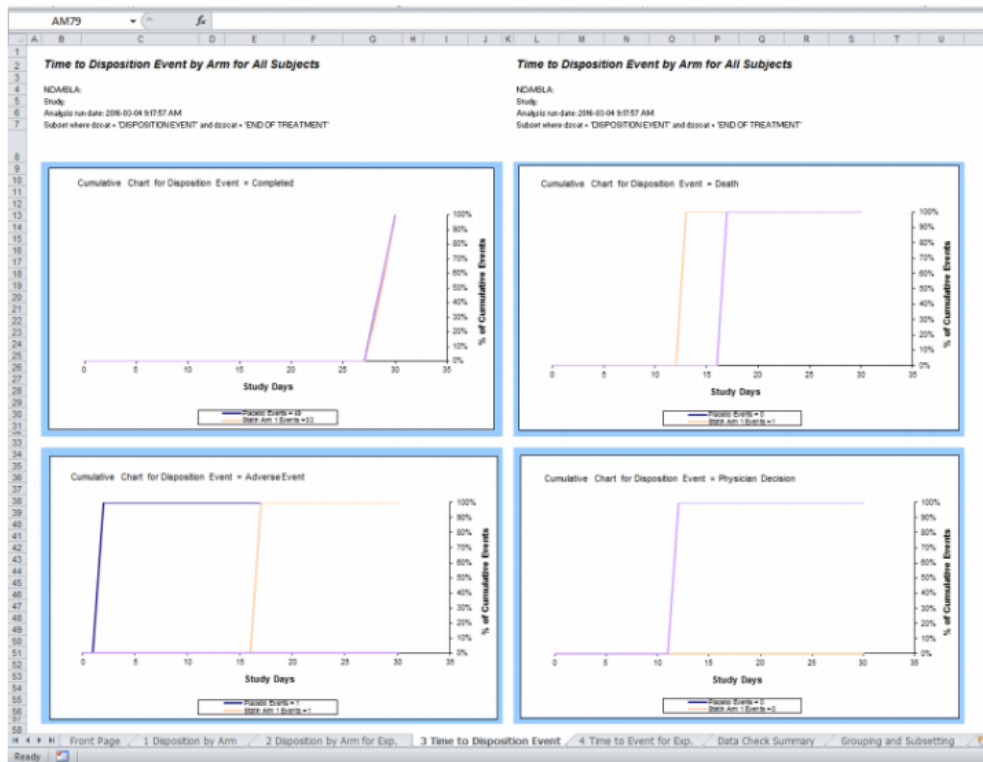
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# Analytical Tools

# PhUSE Analysis Resources

Disposition was reviewed by PhUSE members last year, and the Working Group continues to review the script this year with the hope of creating an updated, more user-friendly version.



phuse-org / phuse-scripts

Code Issues Pull requests Projects Wiki Insights

Search results: phuse-scripts / whitepapers /

Me No current message Latest commit 8 days ago

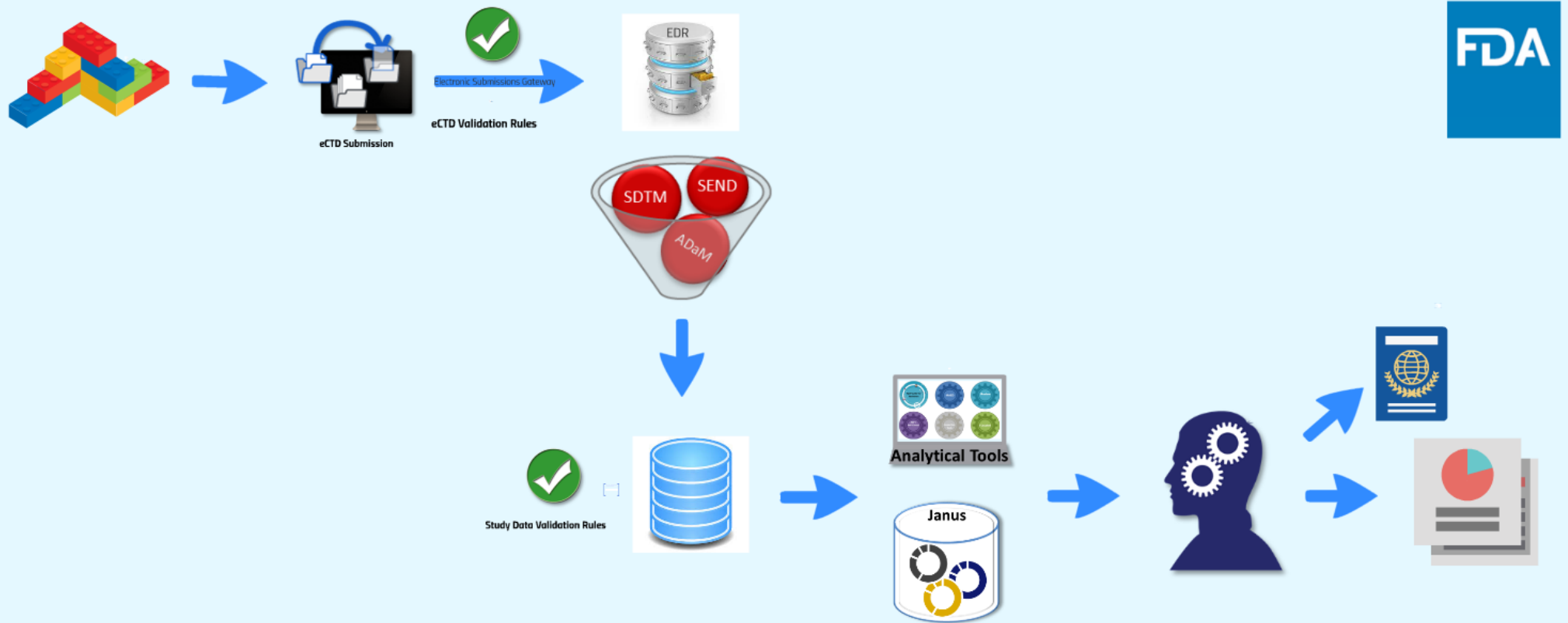
| File                            | Commit Message                                           | Commit Date  |
|---------------------------------|----------------------------------------------------------|--------------|
| ADQM                            | SAS Implementation of Fig. 7.8                           | 1 year ago   |
| WPCT                            | Update WPCT-F07.01_sas.mxl                               | 3 months ago |
| WPCT.sas                        | No current message                                       | 5 days ago   |
| documentation                   | Figure 7.6, Multiple Studies, 3L & PPI                   | 1 year ago   |
| images/woct                     | SAS Implementation of Fig. 7.8                           | 1 year ago   |
| qualification                   | SAS Implementation of Fig. 7.8                           | 1 year ago   |
| scriptations                    | Checked in by CHL_MNB_838 program at 2014/09/05 17:00:00 | 1 year ago   |
| specification                   | Add file via upload                                      | 4 months ago |
| utils                           | Update README.mxl                                        | 2 months ago |
| Central_tendency/User_Guide.mxl | Update Central_tendency/User_Guide.mxl                   | 1 year ago   |
| Programing/Guidel.mxl           | Update Programing/Guidel.mxl                             | 1 year ago   |
| README.mxl                      | Update README.mxl                                        | 1 year ago   |
| Validated                       | Create Validated                                         | 4 months ago |

## Visualisation of Group Related Differences in Histopathology Data:



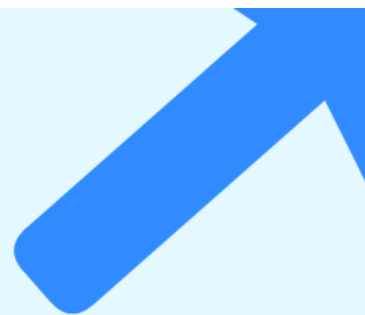
**Script Discovery & Acquisition:** The aim of the FDA/PhUSE repository is to make available a set of scripts/tools/programs for data manipulation, reporting and analyses of medical data. There are currently many such tools already available on the internet, but they are disparate and many are not easy to locate. This project aims to bring as many of these together into our open source Code Repository, making them more accessible to the community of statisticians and programmers across pharma, regulators and academia. Key tasks will be identifying, contracting and negotiating with the current owners of the scripts/tools/programs to bring them into the FDA/PhUSE repository.

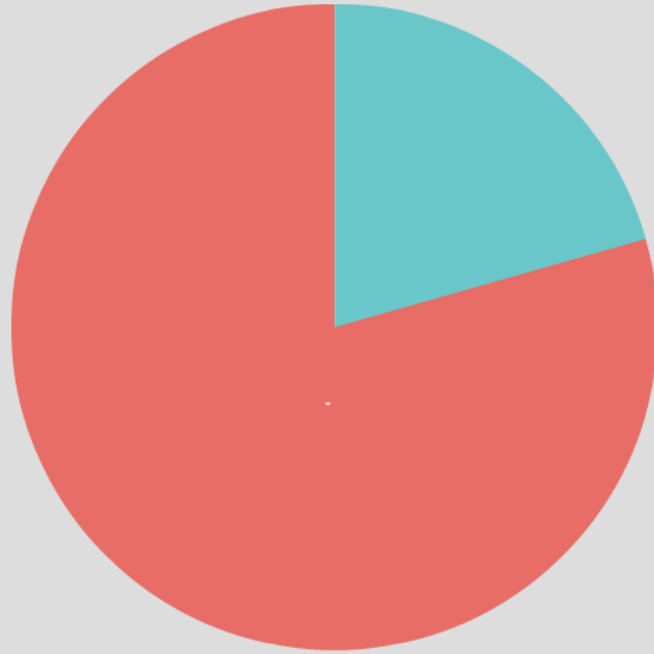
**Nonclinical Script Assessment Project:** Analysis scripts for SEND data would be valuable tools. Can existing clinical scripts be used to help develop nonclinical scripts? What is the best process for prioritising, developing and releasing analysis scripts for SEND data?



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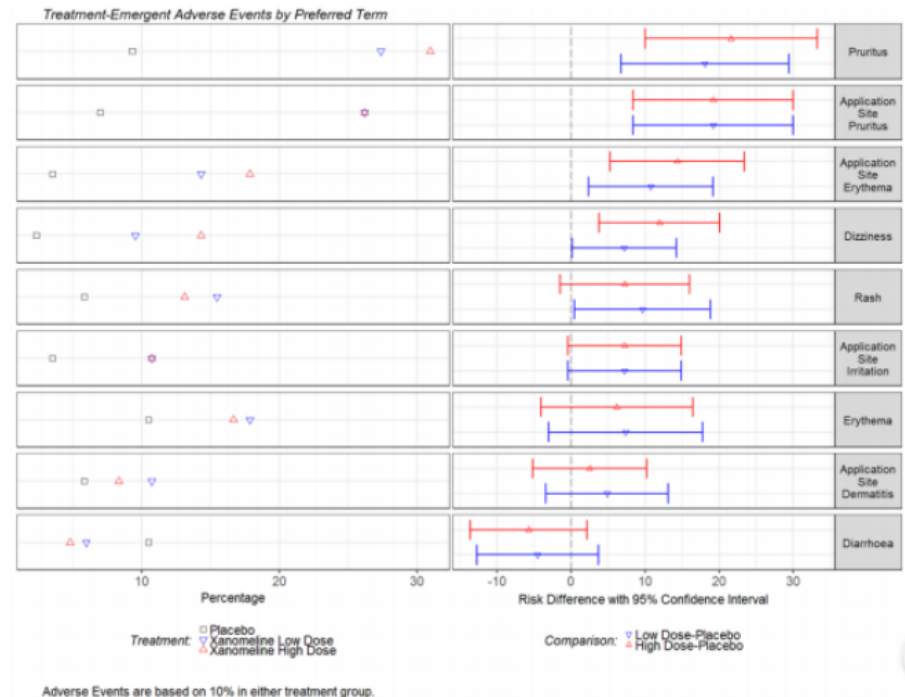


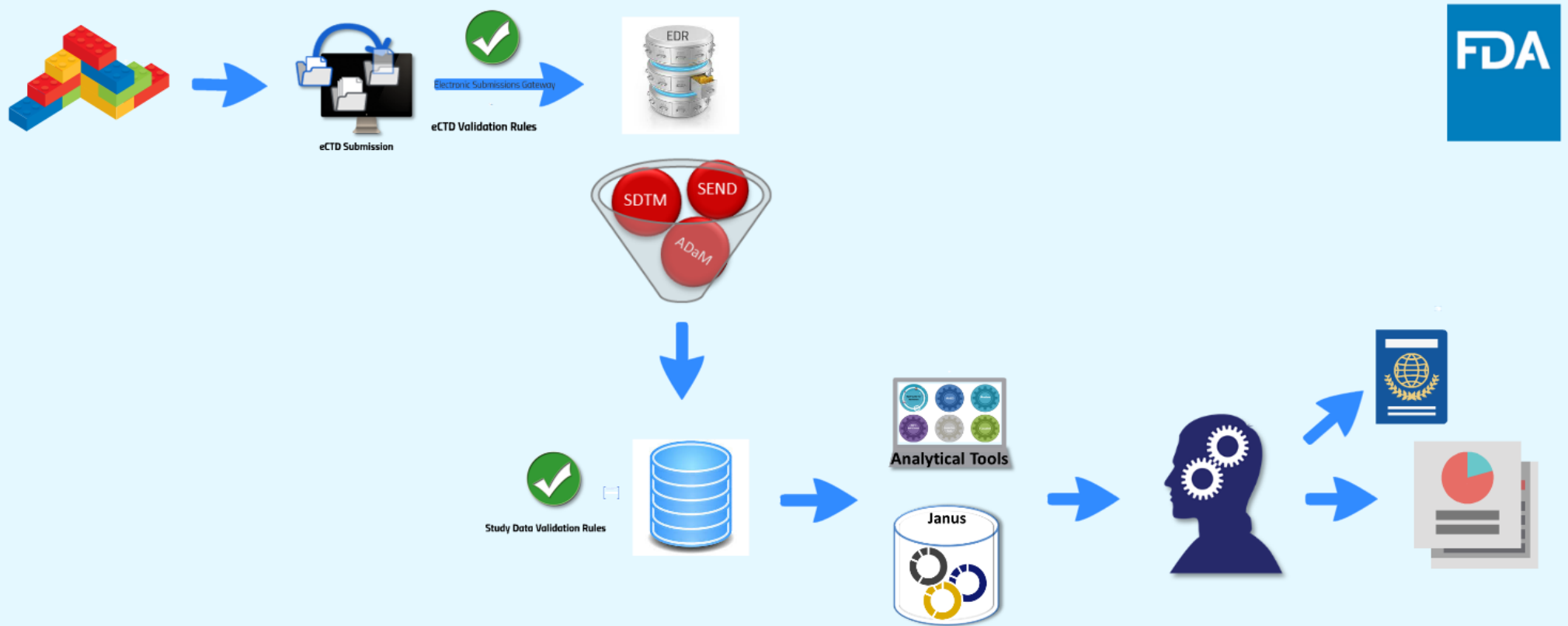
## Adverse Event White Paper Highlights

- Recommended TFLs for CSRs and Integrated Submission Documents
- Discussion on p-values and confidence intervals
- Guiding Principles for inclusion/exclusion of TEAEs after stopping medication
- Recommends adding the study-size adjusted percentage to integrated tables

**NEW!**

## SAMPLE FIGURE





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# Inspections

**(Re-launched) Standardizing Data within the Inspection Site Selection Process:** This group is a revival of a previous project team from a few years ago which focused on FDA's still draft guidance document on inspection site selection datasets. The group has completed a CDISC gap analysis document to understand from where elements can be pulled from CDISC datasets in order for organisations to more easily and efficiently create these requested datasets. FDA has read the gap analysis and will work with CDISC and PhUSE moving forward. The Standard Analyses & Code Sharing Working Group has indicated they will consider standard specs and code.

**Cloud Adoption in the Life Sciences Industry:** Cloud Technology and it's use of multi-tenant app solutions are increasing the capabilities of Life Sciences solutions and reducing IT infrastructure costs through the sharing of infrastructure and investment cross-industry. In some areas multi-tenant cloud solutions have become ubiquitous. For example, Salesforce.com claim >150K customers utilise their platform for Customer Relationship Management. Furthermore, many routinely rely on cloud services associated with the computer backups and data services associated with cell phones. Nonetheless, the perceptions and interpretations of the regulations by which the Life Sciences industry must conduct it's business, still leave many uncertain about whether or not they can or should pursue the use of cloud solutions for GxP applications. The goal of this work stream has been to provide a practical, usable framework to overcome those barriers. Through the use of this framework, it is envisaged that the barriers to adoption by pharma of cloud-based technology will be addressed.

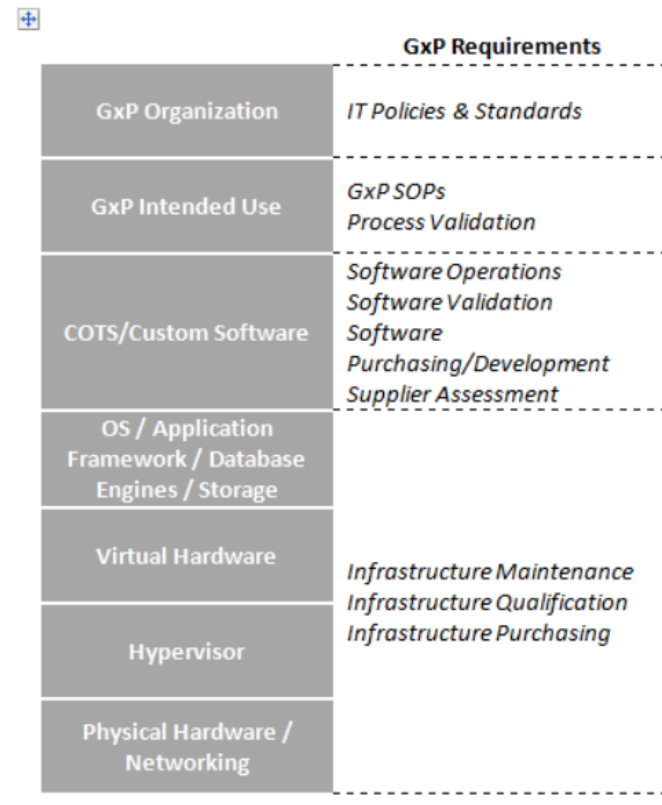
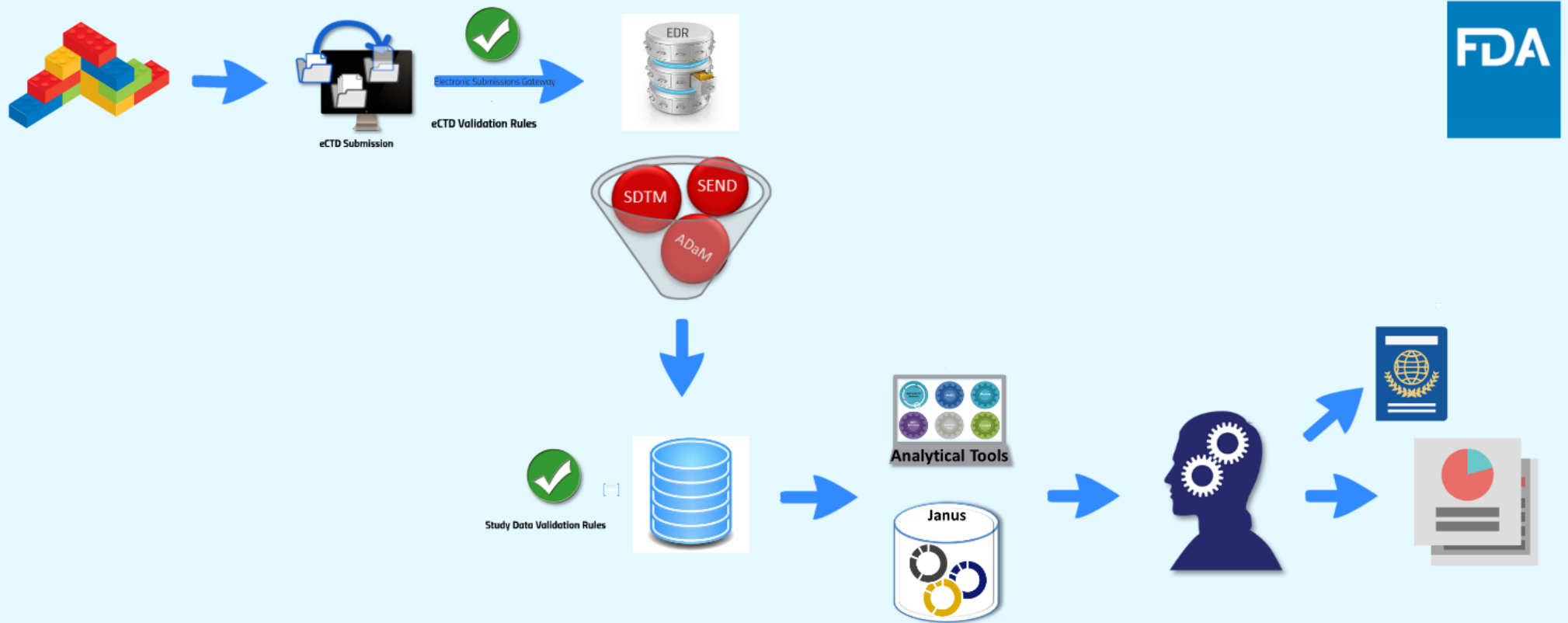


Figure 1 – Elements of a Virtualized GxP System



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# PhUSE Deliverables Referenced By FDA

## Legacy Data Reviewer's Guide

**Legacy Data Reviewer's Guide:** This document provides guidance for the review of legacy data. It includes information on the types of data that are reviewed, the review process, and the review results. The guide is intended for use by data reviewers and is not intended to be used as a substitute for the review process.

### Analysis Data Reviewer's Guide



# Clinical Study Data Reviewer's Guide

| Clinical Study Data Reviewer's Guide |             |                              |                                                                                                                                                                                                                                                                                                 |
|--------------------------------------|-------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| v1.2                                 | 26-Jan-2015 | SDRG Package v1.2 2015-01-26 | <ul style="list-style-type: none"> <li>Removed Trial Design Dataset navigation table from Section 2.3</li> <li>Improved SDRG Template usability</li> <li>Minor revisions to instructions in SDRG Completion Guidelines</li> <li>SDRG Examples updated to match revised SDRG Template</li> </ul> |
| v1.1                                 | 03-May-2013 | SDRG Package v1.1 2013-05-13 | Initial Version                                                                                                                                                                                                                                                                                 |



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Notice

## Intent To Review a Study Data Reviewer's Guide Template

A Notice by the Food and Drug Administration on 07/23/2015

**PUBLISHED DOCUMENT**

**AGENCY:**  
Food and Drug Administration, HHS

**ACTION:**  
Notice of availability; request for comments.

**SUMMARY:**  
The Food and Drug Administration (FDA), Center for Drug Evaluation and Research (CDER), is establishing a public docket to collect comments related to a proposed Study Data Reviewer's Guide (SDRG) template. As part of FDA's ongoing collaboration with the Pharmaceutical Users Software Exchange (PhUSE), an independent, non-profit consortium addressing computational science issues, a PhUSE working group developed the PhUSE SDRG template. The purpose of this review is to evaluate the template and determine whether

**DOCUMENT DETAILS**

**Printed version:**  
PDF

**Publication Date:**  
07/23/2015

**Agencies:**  
Food and Drug Administration

**Dates:**  
Although you can comment on the PhUSE SDRG template at any time, to ensure that the Agency considers your comments in this review, please submit either electronic or written comments by September 21, 2015.

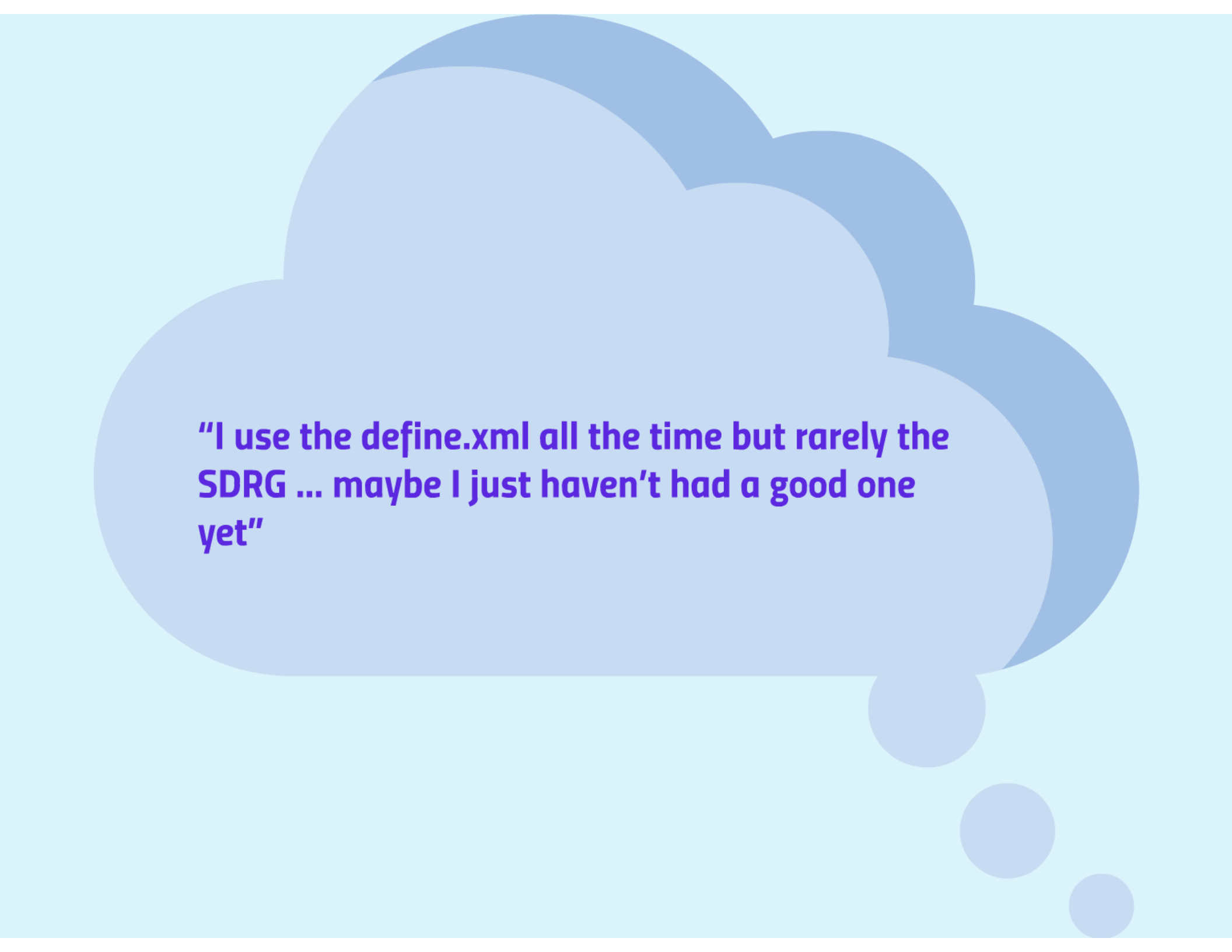
**Document Type:**  
Notice

**Document Citation:**  
80 FR 43779

<sup>12</sup> A specific template for a Study Data Reviewer's Guide for clinical studies is not specified. However, an example of a Study Data Reviewer's Guide (e.g., template, completion guidelines and examples) can be found at [http://www.phusewiki.org/wiki/index.php?title=Study\\_Data\\_Reviewer%27s\\_Guide](http://www.phusewiki.org/wiki/index.php?title=Study_Data_Reviewer%27s_Guide).



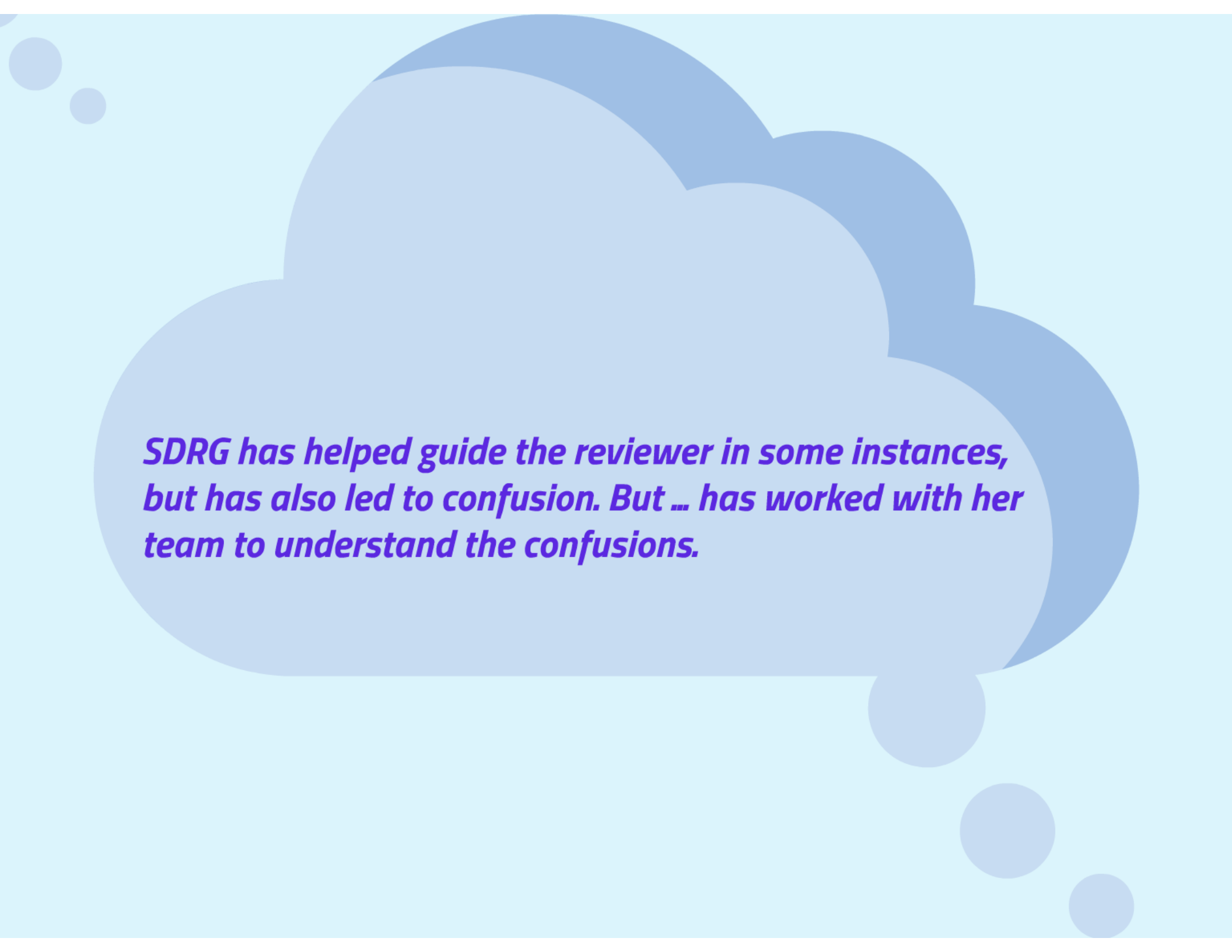
***Lilliam's goal is getting more SDRGs in house – it would be helpful to have statistics about how many applications don't have SDRGs and the impact (value) SDRGs provide to JumpStart team and reviewers. How well the SDRGs were created?***



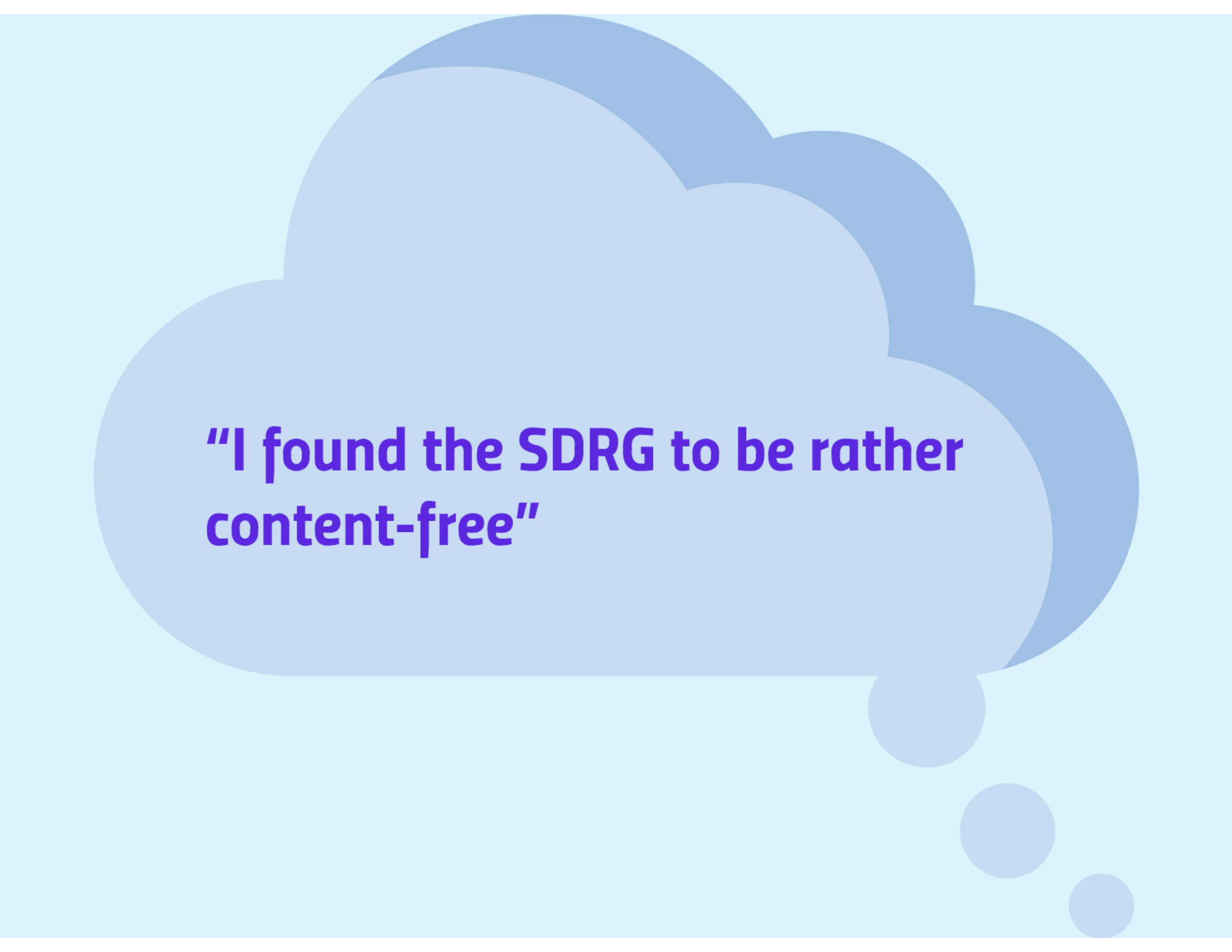
**"I use the `define.xml` all the time but rarely the SDRG ... maybe I just haven't had a good one yet"**



**Not very familiar with SDRG –  
JumpStart Analyst's review was very  
helpful.**



***SDRG has helped guide the reviewer in some instances, but has also led to confusion. But ... has worked with her team to understand the confusions.***



**"I found the SDRG to be rather  
content-free"**

## Since 2013 - JS has conveyed 96 Issues related to SDRGs to review teams

SDRG is missing SUPP variables

Non-standard structure of SDRG for all studies, Information such as SUPP details, list of all datasets, and efficacy dataset information missing

All Studies: The quality of the Study Data Reviewer Guide (SDRG) and Define file is good

Three domains are referenced in the define.xml and SDRG, but they are not present in data

The SDRG contains information about subjects who failed initial screening and were allowed to rescreen; We have provided a list of rescreened subject ID's

SDRG is missing all sections except conformance

In January 2016, JumpStart started tracking inclusion of SDRGs using our automated data validation tool.

**33**



**12**



# Nonclinical Study Data Reviewer's Guide

**Nonclinical Study Data Reviewers Guide:** This project is to evolve the Nonclinical Study Data Reviewers Guide (SDRG), based on comments from a public PhUSE review, plus adapt to updates of the Technical Conformance Guide, from FDA. Our goal is for the NC SDRG package to be considered in FDA's Intent to Use process in 2016. We also continue to check and align with the SDRG template and guide, developed by the Optimizing the Use of Data Standards Working Group for Clinical Studies.

## Clinical Study Data Reviewer's Guide

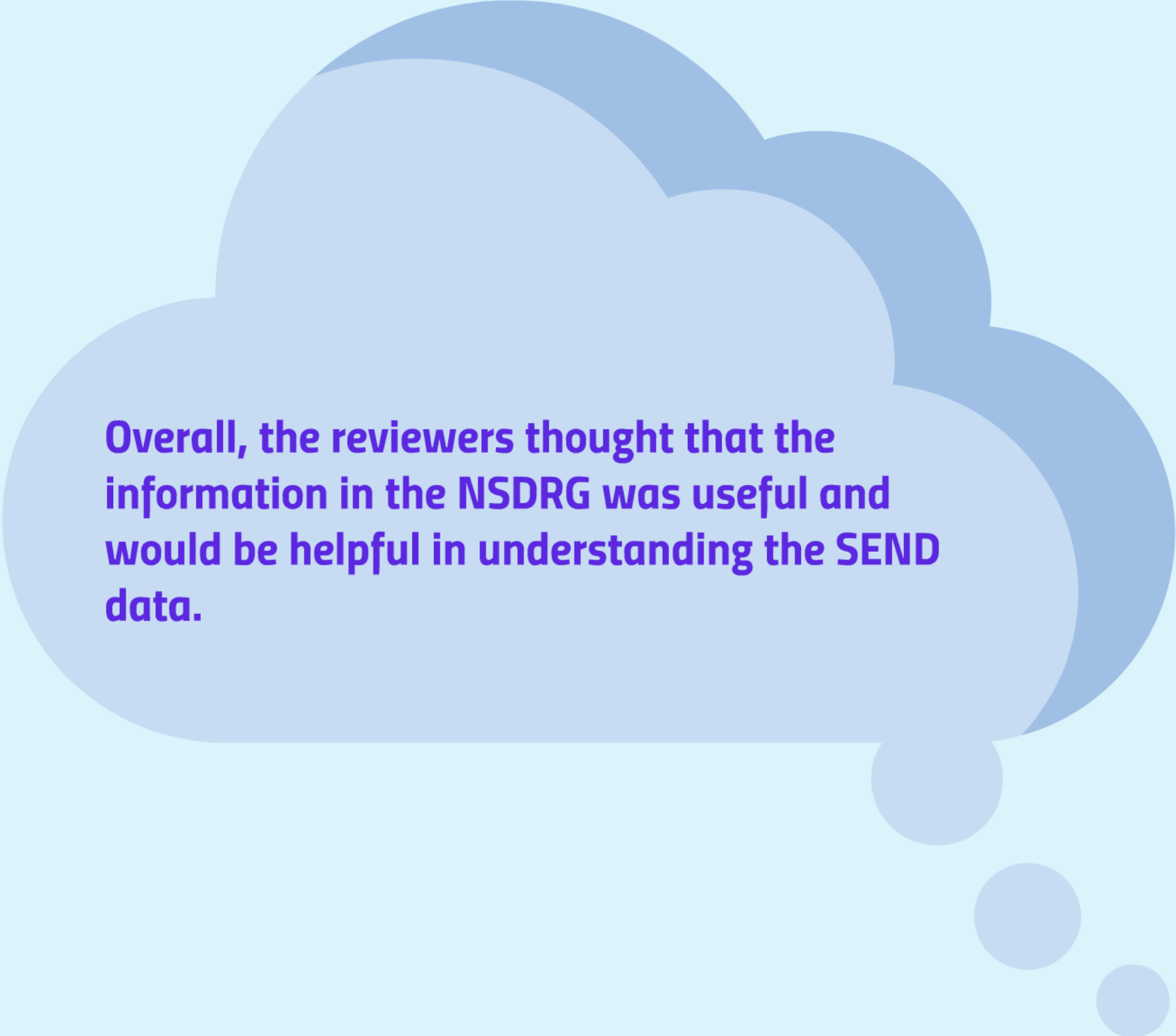


<sup>13</sup> A specific template for a Study Data Reviewer's Guide for clinical studies is not specified. However, an example of a Study Data Reviewers Guide (e.g., template, recommendations and examples) can be found at [http://www.phusewiki.org/wiki/index.php?title=Nonclinical\\_Study\\_Data\\_Reviewers\\_Guide](http://www.phusewiki.org/wiki/index.php?title=Nonclinical_Study_Data_Reviewers_Guide).

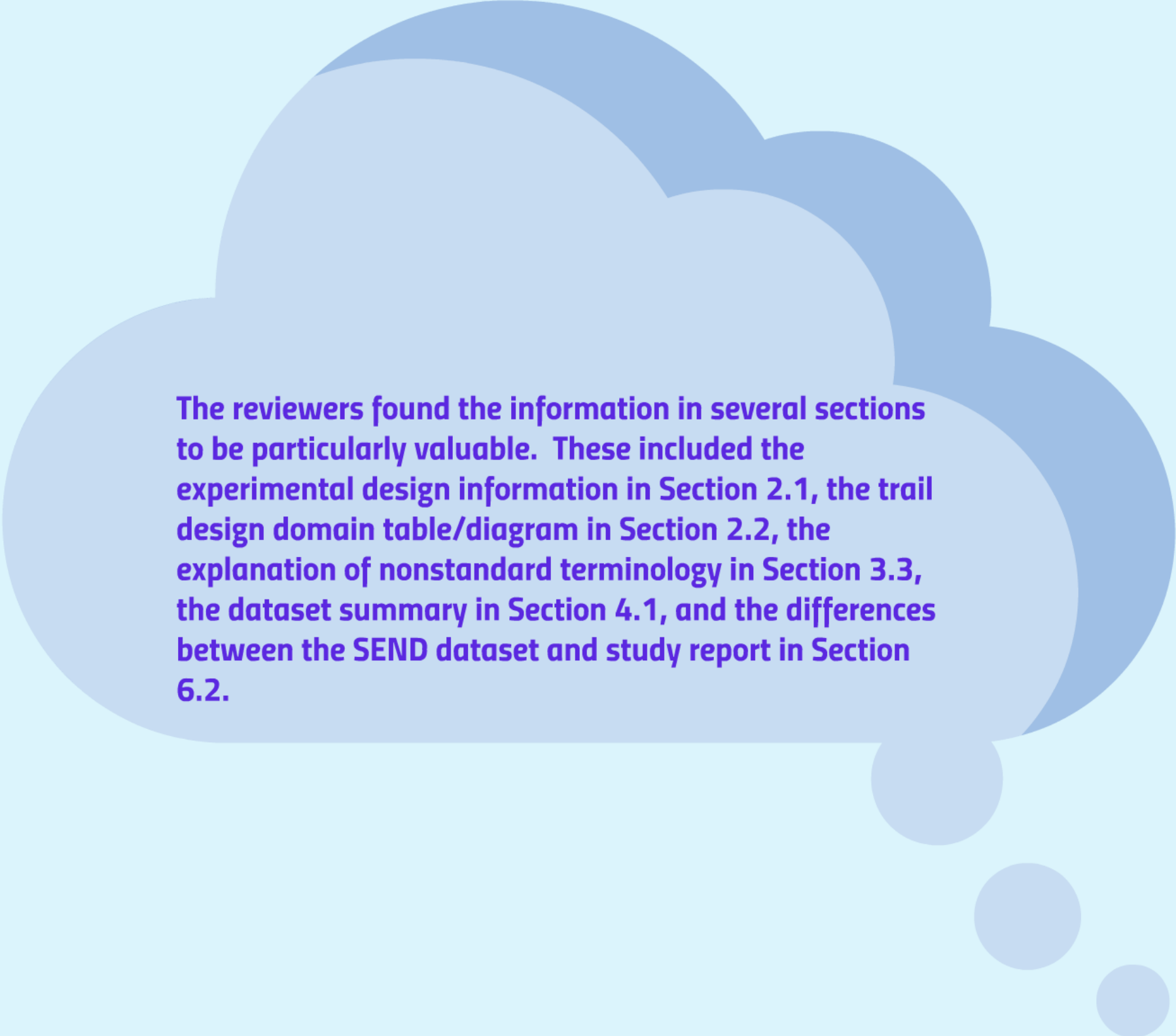


<sup>13</sup> A specific template for a Study Data Reviewer's Guide for nonclinical studies is not specified. However, an example of a Study Data Reviewers Guide (e.g., template, recommendations and examples) can be found at [http://www.phusewiki.org/wiki/index.php?title=Nonclinical\\_Study\\_Data\\_Reviewers\\_Guide](http://www.phusewiki.org/wiki/index.php?title=Nonclinical_Study_Data_Reviewers_Guide).

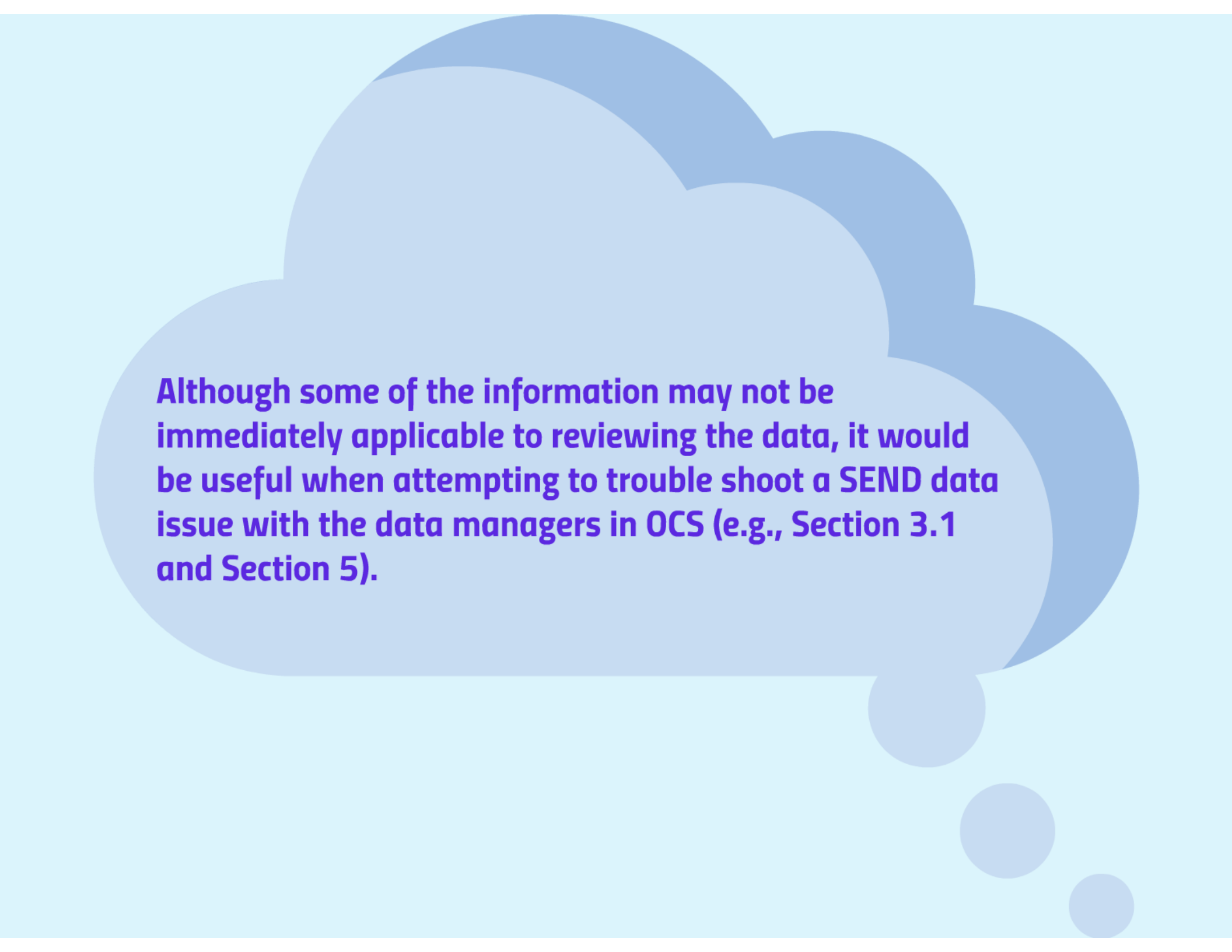




**Overall, the reviewers thought that the information in the NSDRG was useful and would be helpful in understanding the SEND data.**



**The reviewers found the information in several sections to be particularly valuable. These included the experimental design information in Section 2.1, the trail design domain table/diagram in Section 2.2, the explanation of nonstandard terminology in Section 3.3, the dataset summary in Section 4.1, and the differences between the SEND dataset and study report in Section 6.2.**



**Although some of the information may not be immediately applicable to reviewing the data, it would be useful when attempting to trouble shoot a SEND data issue with the data managers in OCS (e.g., Section 3.1 and Section 5).**

# Study Data Standardization Plan

**Study Data Standardization Plan (SDSP):** Development of a required study data standardization plan early in the development cycle to optimize implementation of CDISC, SEND, SDTM ADaM data standards. The template has been created and FDA has issued an FR Notice for Intent to Review with comments due by 9th January 2017. Deliverables include the following: Template, Sponsor Implementation Plan, example documents and completion guidelines.

## Nonclinical Study Data Reviewer's Guide

**Nonclinical Study Data Reviewer's Guide:** This project is to develop the Nonclinical Study Data Reviewer's Guide (NCRSDRG), based on information from the CDISC, SEND, SDTM ADaM data standards. The project is to develop the NCRSDRG, based on information from the CDISC, SEND, SDTM ADaM data standards. The project is to develop the NCRSDRG, based on information from the CDISC, SEND, SDTM ADaM data standards.



<sup>11</sup> A specific template for a Study Data Standardization Plan is not specified. However, an example of a Study Data Standardization Plan (template, completion guidelines and examples) can be found at [http://www.phusewiki.org/wiki/index.php?title=Study\\_Data\\_Standardization\\_Plan\\_%28SDSP%29](http://www.phusewiki.org/wiki/index.php?title=Study_Data_Standardization_Plan_%28SDSP%29)

<sup>10</sup> A specific template for a Study Data Standardization Plan is not specified. However, an example of a Study Data Standardization Plan (template, completion guidelines and examples) can be found at [http://www.phusewiki.org/wiki/index.php?title=Study\\_Data\\_Standardization\\_Plan\\_%28SDSP%29](http://www.phusewiki.org/wiki/index.php?title=Study_Data_Standardization_Plan_%28SDSP%29)

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Notice

### Intent To Review a Study Data Standardization Plan Template; Notice of Availability; Establishment of a Public Docket; Request for Comments

A Notice by the Food and Drug Administration on 11/08/2016

**SHORT TITLE OF DOCUMENT**

**AGENCY:**  
Food and Drug Administration, HHS.

**ACTION:**  
Notice of availability; request for comments.

**SUMMARY:**  
The Food and Drug Administration (FDA), Center for Drug Evaluation and Research, is establishing a public docket to collect comments related to a proposed Study Data Standardization Plan (SDSP) template. As part of FDA's ongoing collaboration with the Pharmaceutical Research and Manufacturers of America (PhRMA), an independent, non-profit consortium addressing computational

**DOCUMENT DETAILS**

Printed version:  
1/8

Publication Date:  
11/08/2016

Agencies:  
Food and Drug Administration

Dates:  
Although you can comment on the PHUSE SDSP template at any time, we encourage that you comment on this review, please write when you can, as written comments by January 9, 2017.

Document Type:

# Analysis Data Reviewer's Guide

| Version | Release Date | Downloadable Work Package     | Changes from Previous Version                                                                                                                                                                                                                                     |
|---------|--------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| v1.1    | 26-Jan-2015  | ADRG Package v1.1 2015-01-26  | <ul style="list-style-type: none"> <li>Added ADSL Header to Section 5.2</li> <li>Improved ADRG Template usability</li> <li>Minor revisions to instructions in ADRG Completion Guidelines</li> <li>ADRG Examples updated to match revised SDRG Template</li> </ul> |
| v1.01   | 13-May-2014  | ADRG Package v1.01 2014-05-13 | Initial Version                                                                                                                                                                                                                                                   |

## Study Data Standardization Plan

**Study Data Standardization Plan (SDSP)** Development of a standard study data standardization plan early in the development cycle to optimize implementation of CDISC SDTM, CDASH, and CDISC data standards. The template has been created and FDA has issued an FR Notice for intent to Review with comments due by 09 January 2017. Submissions include the following: Template, Sponsor Implementation Plan, example documents and completion guidelines.



<sup>14</sup> A specific template for a Study Data Standardization Plan is not specified. However, an example of a Study Data Standardization Plan (template, completion guidelines and examples) can be found at [http://www.phusewiki.org/wiki/index.php?title=Study\\_Data\\_Standardization\\_Plan\\_ADRGSDSPv2](http://www.phusewiki.org/wiki/index.php?title=Study_Data_Standardization_Plan_ADRGSDSPv2)

## Analysis Data Reviewer's Guide

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<sup>15</sup> A specific template for an Analysis Data Reviewer's Guide is not specified. However, an example of an Analysis Data Reviewer's Guide (template, completion guidelines and examples) can be found at [http://www.phusewiki.org/wiki/index.php?title=Analysis\\_Data\\_Reviewer's\\_Guide](http://www.phusewiki.org/wiki/index.php?title=Analysis_Data_Reviewer's_Guide).

# PhUSE Deliverable Referenced By FDA

## Legacy Data Reviewer's Guide

**Legacy Data Conversion Plan Report:** This team will work on a standardised approach to the development of a single traceability document to address conversions from non-standardised data (i.e. legacy) to standardised data (SEND, SDTM, ADaM). Although the Technical Conformance Guide indicates this should be added to the SDRG, FDA has agreed that a separate document is acceptable since the conversion could be related to SDTM and ADaM. There are also other traceability situations that occur within the life cycle of a compound that could be relevant and should be shared with FDA. The goals of the team are to provide a template, completion guidelines, and some examples that may be utilised by sponsors to develop the LDCP. It is expected that LDCP will be created when non-standardised data is converted to standardised data (e.g. CDISC, SDTM, SEND and ADaM).

### Analysis Data Reviewer's Guide

|                                                                                                                                                                                              |                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U.S. Food & Drug Administration<br>Center for Drug Evaluation and Research<br>Office of Clinical Research<br>10101 Rockledge Drive, Suite 200<br>Rockville, MD 20850-4240<br>www.fda.gov/oc/ | U.S. Food & Drug Administration<br>Center for Drug Evaluation and Research<br>Office of Clinical Research<br>10101 Rockledge Drive, Suite 200<br>Rockville, MD 20850-4240<br>www.fda.gov/oc/ |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



#### Analysis Data Reviewer's Guide

|                                                                                                                                                                                              |                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U.S. Food & Drug Administration<br>Center for Drug Evaluation and Research<br>Office of Clinical Research<br>10101 Rockledge Drive, Suite 200<br>Rockville, MD 20850-4240<br>www.fda.gov/oc/ | U.S. Food & Drug Administration<br>Center for Drug Evaluation and Research<br>Office of Clinical Research<br>10101 Rockledge Drive, Suite 200<br>Rockville, MD 20850-4240<br>www.fda.gov/oc/ |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

<sup>10</sup> A specific template for an Analysis Data Reviewer's Guide is not specified. However, an example of an Analysis Data Reviewer's Guide template, completion guidelines and examples can be found at <http://www.ubmworld.com/healthcare/clinical-trials/clinical-trials/analysis-data-reviewer-s-guide>.

Study <Protocol Number> Study Data Reviewer's Guide

### 5. Legacy Data Conversion Plan & Report

#### 5.1 Conversion Approach

The legacy data was converted to SDTM as described in the following data flow diagram.

#### 5.2 Converted Data Summary

Describe legacy data and the conversion process.

#### 5.3 Conversion Summary

##### 5.3.1 Conversion Results

##### 5.3.2 Issues Encountered and Resolved

##### 5.3.3 Outstanding Issues

#### 5.4 Detailed Data Summary

##### 5.4.1 Significant Data Issues

##### 5.4.2 Clarifications

##### 5.4.3 Traceability

Appendix III displays the traceability between key CT variables in the original CRF created by legacy study data and the SDTM standard(s).

##### 5.4.4 Adjudications

### 5.3.2.2 Legacy Data Conversion Plan and Report

Sponsors should evaluate the decision involved in converting previously collected non-standardized data (i.e. legacy study data) to standardized data (i.e. SDTM and ADaM). Sponsors should provide the explanation and rationale for the study data conversion in the RUI. To mitigate traceability issues when converting legacy data, FDA recommends the following procedures:

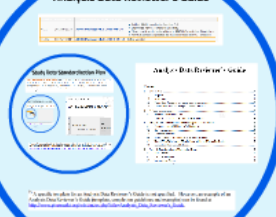
1. Prepare and Submit a Legacy Data Conversion Plan and Report
  - The plan should describe the legacy data and the process intended for the conversion.
  - The report should present the results of the conversions, issues encountered and resolved, and outstanding issues.
  - The plan and report should be provided in the SDRG.
2. Provide an aCRF, for clinical data, that maps the legacy data elements.
  - Sponsors should provide two separate CRF annotations, one based on the original legacy data, and the other based on the converted data (i.e., SDTM) when legacy datasets are submitted. The legacy CRF tabulation data should include all versions and all forms used in the study.
3. Record significant data issues, clarifications, explanations of traceability, and adjudications in the RG. For example, data were not collected or were collected using different/incompatible terminologies, or were collected but will not fit into, for example, SDTM format.
4. Legacy data (i.e., legacy aCRF, legacy tabulation data, and legacy analysis data) may be needed in addition to the converted data.

# PhUSE Deliverables Referenced By FDA

## Legacy Data Reviewer's Guide

**Legacy Data Conversion Plan Report:** This team will work on a standardized approach to the development of a single traceability document to address deliverables from non-standardized data (i.e. legacy) to standardized data (e.g. SDTM, ADaM). Although the Standardized Data includes the input file related to the SDTM, FDA has agreed that a separate document is acceptable since the conversion could be related to SDTM and ADaM. There are also other two critical situations that occur within the life cycle of a compound that could be relevant and should be shared with FDA. The goals of the team are to provide a template, completion guidelines, and some examples that may be shared by sponsors to develop the LDCP. It is expected that LDCP will be provided after non-standardized data is converted to standard data (e.g. SDTM, SDR, SDV and ADaM).

## Analysis Data Reviewer's Guide



| Legacy Data Reviewer's Guide              | Analysis Data Reviewer's Guide              |
|-------------------------------------------|---------------------------------------------|
| <b>1. Legacy Data Reviewer's Guide</b>    | <b>2. Analysis Data Reviewer's Guide</b>    |
| <b>1.1. Legacy Data Reviewer's Guide</b>  | <b>2.1. Analysis Data Reviewer's Guide</b>  |
| <b>1.2. Legacy Data Reviewer's Guide</b>  | <b>2.2. Analysis Data Reviewer's Guide</b>  |
| <b>1.3. Legacy Data Reviewer's Guide</b>  | <b>2.3. Analysis Data Reviewer's Guide</b>  |
| <b>1.4. Legacy Data Reviewer's Guide</b>  | <b>2.4. Analysis Data Reviewer's Guide</b>  |
| <b>1.5. Legacy Data Reviewer's Guide</b>  | <b>2.5. Analysis Data Reviewer's Guide</b>  |
| <b>1.6. Legacy Data Reviewer's Guide</b>  | <b>2.6. Analysis Data Reviewer's Guide</b>  |
| <b>1.7. Legacy Data Reviewer's Guide</b>  | <b>2.7. Analysis Data Reviewer's Guide</b>  |
| <b>1.8. Legacy Data Reviewer's Guide</b>  | <b>2.8. Analysis Data Reviewer's Guide</b>  |
| <b>1.9. Legacy Data Reviewer's Guide</b>  | <b>2.9. Analysis Data Reviewer's Guide</b>  |
| <b>1.10. Legacy Data Reviewer's Guide</b> | <b>2.10. Analysis Data Reviewer's Guide</b> |

**3. Legacy Data Reviewer's Guide**

3.1. Legacy Data Reviewer's Guide

3.2. Legacy Data Reviewer's Guide

3.3. Legacy Data Reviewer's Guide

3.4. Legacy Data Reviewer's Guide

3.5. Legacy Data Reviewer's Guide

3.6. Legacy Data Reviewer's Guide

3.7. Legacy Data Reviewer's Guide

3.8. Legacy Data Reviewer's Guide

3.9. Legacy Data Reviewer's Guide

3.10. Legacy Data Reviewer's Guide

**Education for the Future (New Project):** Methodologies and technologies utilised in the clinical development process have been largely unchanged for at least the last 15 years. Since 2005, there have been immense advancements in technology and mindsets related to working with data that have not made their way into our industry. The ET&T working group sees this as a risk. Our opinion is that the general gap in knowledge and skills is so large now that it has the potential to leave us exposed to broad external forces that we are ill prepared to take advantage of. We view this as a large risk for the current workforce of people who perform this work that. There are a number of projects that the ET&T group should be working on, to address some of these topics, such as modern programming languages for data science (for example Python, R, or Scala), machine learning, artificial intelligence, design thinking, and agile software development, just to name a few. The goal of this project would be to develop and carry out a framework to educate the PhUSE community at large, on both the importance of these topics, the details of the topics themselves, and how they can be used to drive innovation in the industry. Our initial goal is to identify areas that we see as being the most pressing.

# CS WORKING GROUPS

## Emerging Trends and Technologies

Crystal Allard, Patricia Brundage, Xiaojun Jie, Patricia Koussis, Timothy Kropp, John Luo, Janie Ma, Vaishali Popat, Rebecca Racz, Mitra Rocca, Paul Schuette, Christine Wang

## Non-Clinical Topics

Paul Brown, Robert Dorsam, Dave Epstein, Carol Galvis, John Ho, Timothy Kropp, Kathryn Matto, Sree Rayavarapu, Kevin Snyder, Elaine Thompson

## Optimizing Use of Data Standards

Kassa Ayalew, Jesse Anderson, Brenda Baldwin, Huanyu Chen, Vidhya Dandi, Michelle Dieter, Kate Dwyer, Ronald Fitzmartin, Md Rashedul Hasan, Ginny Hussong, Michael Johnson, Bhanu Kannan, Jingyee Kou, Joy Li, Rui Li, Yu Lin, Lisa Lin, Jean Mulinde, Eileen Navarro, Tejas Patel, Lillian Qiu, Lillian Rosario, Paul Schuette, Alan Shapiro, Helen Sile, John Slattery, Helena Sviglin, Bereket Tesfaldet, Doug Warfield, Steve Wilson, Weiya Zhang

## Standard Analyses and Code Sharing

Mary Doi, Jee Eun, Matt Soukup, Bobbie Witczak, Jimmy Wong, Regina Zopf

## Linked Data and Graph Database

Vidhya Dandi, Jeno Pizzaro

**PhUSE CSS 2017**  
**FDA Attendees**



