Informational webinar

CRDSA Standard for Secondary Analysis of Clinical Study Data

Wednesday, April 10
10:00 to 11:00 a.m. EDT

Presented by:
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Delivering Collaborative Solutions

**Biopharma**

- Roche
- Novartis
- Takeda
- UCB
- AstraZeneca
- Amgen

**Data Platforms**

- Critical Path Institute
- HDR UK Health Data Research UK
- Clinical Study DataRequest.com
- Project Data Sphere
- Vivli
- The Forum for Collaborative Research
- Berkeley Public Health
- CancerLinQ
- COTA

**Academic and Non-Profit**

- Duke Clinical Research Institute
- The Michael J. Fox Foundation for Parkinson’s Research
- Flinders University
- The University of Chicago Pediatric Cancer Data Commons

**Service and Technology**

- Parexel
- Privacy Analytics
- Real Life Sciences
- d-wise
- a trous

**Partner Organizations**

- Phuse
Presentation Outline

1. The need for standards
2. Scope, structure, and content overview
3. Principles
4. Adoption
5. How you can provide comments
Why are standards needed?
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**Researchers**
- Need to be able to conduct accurate and reproducible analyses
- Need consistent and comprehensive data and meta-data

**Data Contributors**
- Want to ensure their data is used appropriately
- Benefit from a consistent approach and referenceable benchmarks
Why are standards needed?

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**Current State**
- Data sharing and research planning may be time-consuming
- Analyses may be found not to be feasible after data is provided
- Analysis errors can be made
Why are standards needed?

Data Sharing and Secondary Analysis Standards work together to enable good science

**Standard for Sharing Clinical Study Data (v.1.0)**
Draft for Public Comment
Version Date: 26 February 2024

**Standard for Secondary Analysis of Clinical Study Data (v. 1.0)**
Draft for Public Comment
Version Date: 27 February 2024

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**How to share individual patient data (IPD) from clinical studies**

**How to use contributed IPD in secondary research**
Addressing Key Research Challenges

1. The researcher is new to secondary data use and not aware of the necessary analysis steps

2. The researcher isn’t familiar with biopharma trial designs (crossover design, etc.)

3. The researcher isn’t conversant in the data formats, encoding, and structures used in biopharma studies
Scope, structure, and content overview
Includes secondary analyses of interventional clinical trials conducted in patients and non-interventional clinical studies using patient data

Includes planning, conducting and reporting secondary analyses

Does not include details of statistical methods and analyses

Based on CRDSA expertise and external publications – for example:

EFSP1/PSI working group on data sharing: accessing and working with pharmaceutical clinical trial patient level datasets – a primer for academic researchers

DOI: 10.1186/s12874-016-0171-z • Corpus ID: 33794900

Chapter 26: Individual participant data

Jayne F Tierney, Lesley A Stewart, Mike Clarke, on behalf of the Cochrane Individual Participant Data Meta-analysis Methods Group
Structure of the Standards

Principles (requirements)

The Standards provide principles CRDSA considers to be mandatory. Principles may be supplemented with criteria to be followed to meet the principle.

Non-mandatory recommendations are provided as best practices.
Structure of the Standards

Principles (requirements)

The Standards provide principles CRDSA considers to be mandatory. Principles may be supplemented with criteria to be followed to meet the principle.

Non-mandatory recommendations are provided as best practices.

The principles and criteria may not be applicable for every study that is shared or every analysis that is conducted— a checklist is provided where any deviations or exceptions from the principles/criteria for a shared study or analysis can be explained.

Checklist (for case-by-case exceptions)
## Data Sharing Standard
- Datasets to be shared
- Supporting documentation and meta-data to be shared
- Data transformation report
- When supporting documentation is to be shared

## Secondary Analysis Standard
- Plan
- Conduct
- Report
Principles
Plan

• Define the research question and hypothesis
• Identify the studies needed
• Assemble a team with the experience and expertise required
• Determine the appropriate statistical methods to be used
• Obtain required approvals
• Publicly disclose a summary of the planned analysis
Ensure that the IT system has controls and processes in place to protect the integrity and security of data
Prepare to conduct the analysis by extracting data and transforming the data into a suitable format for analysis
Test the code and reproduce selected analyses from the original study or studies
Perform the statistical analysis according to the statistical analysis plan; justify and document any changes; and implement relevant quality control measures
Interpret the results of the analysis, considering the research question and the study design
Draw objective conclusions based on the findings and study limitations
• Communicate findings through presentations and publications

• Share data, documents, and code used for the analysis for transparency and reproducibility
Principles - Team

TEAM
THE RESEARCH TEAM IS TO HAVE THE EXPERIENCE AND EXPERTISE TO CONDUCT THE ANALYSIS

- Statistical expertise and experience in clinical study data analysis
- Expertise and skill sets needed to navigate clinical study documents
- Expertise in managing the types of datasets being accessed and using the relevant software
- Specific expertise relevant for the analysis
  - Safety
  - Disease Area
  - AI
CLINICAL STUDIES THAT INCLUDE THE DATA FOR THE ANALYSIS ARE TO BE OBJECTIVELY IDENTIFIED AND ASSESSED USING PREDEFINED CRITERIA

- Ensures study selection is guided by the research question
- Minimizes bias in study selection
- Ensures selected studies meet the requisite criteria for analysis
A PRESPECIFIED STATISTICAL ANALYSIS PLAN (SAP) IS TO BE IN PLACE

- The questions and hypotheses
- Effect measure of interest
- The populations and variables to be analyzed
- Statistical analysis methods
- Any planned adjustment for covariates
- Meta-analysis methods, if applicable
- Power to detect a clinically important effect, or the precision of the effect estimate given the sample size available
- Any data transformations to be used, and how any missing data or outliers will be handled
- Any planned sensitivity analyses to explore the robustness of the results
- Any planned investigation of subgroups
DATA MANAGEMENT
PREDETERMINED METHODS FOR DATA MANAGEMENT AND ANY READJUDICATION ARE TO BE FOLLOWED AND ANY DEVIATIONS ARE TO BE DOCUMENTED

Readjudication

- There is to be a documented justification for any analysis involving readjudication of a source study

- Multiple independent adjudicators are to be involved in the readjudication process

- The analyst or reviewers are to be blinded to the treatment group assignments and other relevant information to reduce bias

- MedDRA is to be used for the readjudication of adverse events

- For efficacy outcomes, the same standards as used in the original analysis or other standardized and referenceable criteria are to be used
STUDY AND DATA UNDERSTANDING
TO DEMONSTRATE UNDERSTANDING OF THE STUDIES AND STUDY DATA, SELECTED ANALYSES IN THE ORIGINAL STUDIES ARE TO BE REPRODUCED AND ANY DIFFERENCES ARE TO BE EXPLAINED AND DOCUMENTED
RESULTS TRANSPARENCY
DATA, DOCUMENTS, AND CODE USED FOR THE ANALYSIS ARE TO BE SHARED OR MADE AVAILABLE ON REQUEST
Adoption
The standards can be adopted by data sharing platforms, funders, research institutions, and scientific journals.

When adopting a CRDSA standard, the organization incorporates the principles into their policy (the organization governs compliance with the policy), for example:

“Organization X adopts the CRDSA Standard and requires data contributors/researchers to follow the principles and complete the checklist in the CRDSA Standard”
How to provide comments
How you can provide comments

- The draft standards are available for public comment at: https://crdsalliance.org/resources/#sus
- Please make comments using the comment submission form (linked in the draft documents)
- Email your completed form to the CRDSA secondary use standards work group at su@members.crdsaalliance.org
- The closing date for comments is 31 May 2024.
Q&A
Thank you!

For additional resources and information, please visit:
https://crdsalliance.org/resources