Informational webinar

# CRDSA Standard for Sharing Clinical Study Data

Wednesday, March 27
10:00 a.m. to 11:00 a.m. EDT

**Presented by Ramona Walls (C-Path), Andrei Belcin (Privacy Analytics), and Andrew Freeman (CRDSA)**

CRDSA
Clinical Research Data Sharing Alliance

# Delivering Collaborative Solutions

CRDSA

## Biopharma

Roche
NOVARTIS
Takeda
ucb
AstraZeneca
AMGEN

## Data Platforms

CRITICAL PATH INSTITUTE
HDRUK Health Data Research UK
CancerLinQ
Project Data Sphere
Vivli CENTER FOR GLOBAL CLINICAL RESEARCH DATA
THE FORUM For Collaborative Research℠
Berkeley Public Health
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
Real Life Sciences
PRIVACY ANALYTICS an IQVIA company
d-wise An Instem Company
atorus Your Complete Data Solution

## Partner Organizations

phuse

# Presentation Outline

CRDSA

1. The need for standards
2. Scope, structure, and content overview
3. Notable requirements
4. Adoption
5. How you can provide comments

# Why are standards needed?

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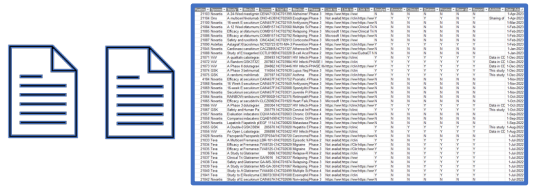
CRDSA

## 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



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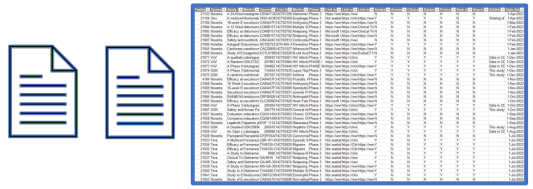
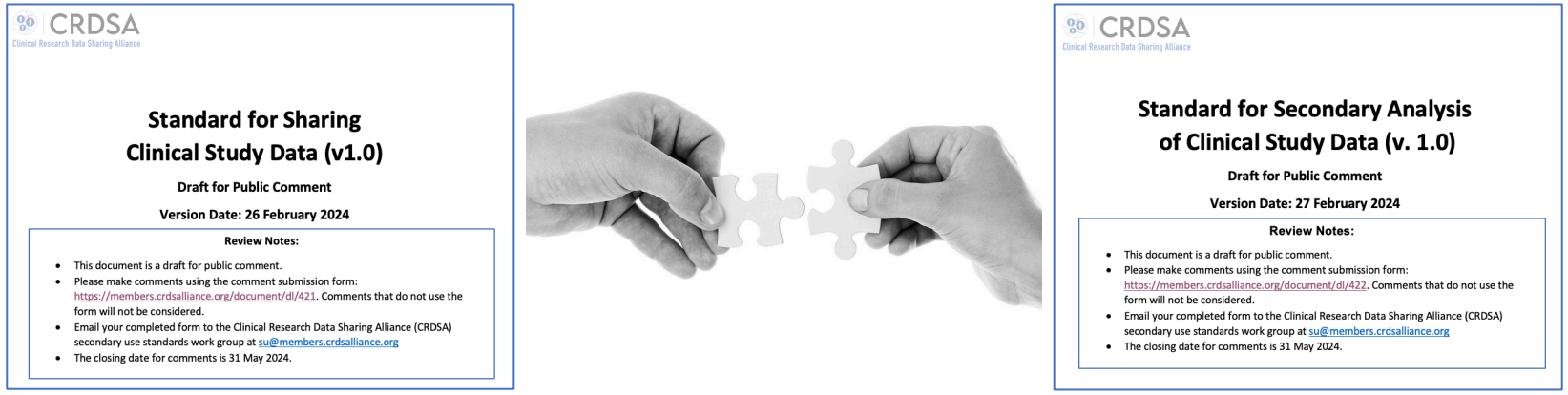


## Current State

- 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

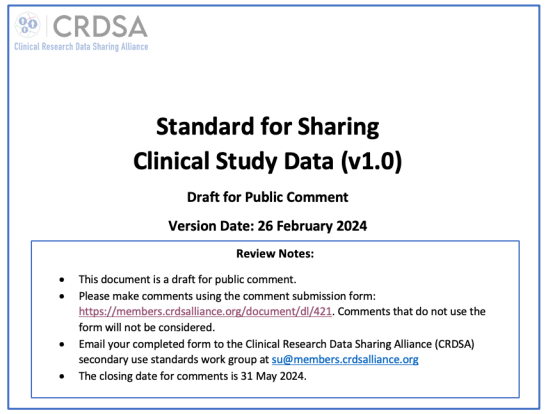



How to share individual patient data (IPD) from clinical studies

How to use contributed IPD in secondary research

# Scope, structure, and content overview

# Data Sharing Standard - Scope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**Standard for Sharing Clinical Study Data (v1.0)**

**Draft for Public Comment**

**Version Date: 26 February 2024**

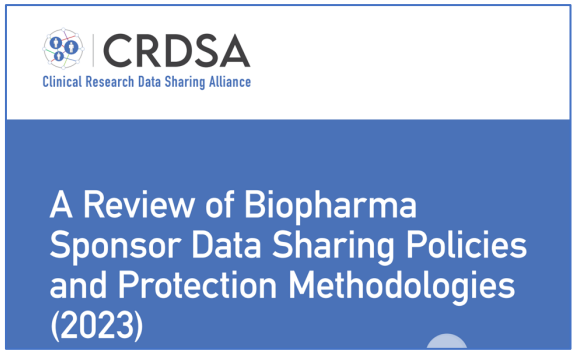
**Review Notes:**

- This document is a draft for public comment.
- Please make comments using the comment submission form: https://members.crdsalliance.org/document/dl/421. Comments that do not use the form will not be considered.
- Email your completed form to the Clinical Research Data Sharing Alliance (CRDSA) secondary use standards work group at su@members.crdsalliance.org
- The closing date for comments is 31 May 2024.

- Includes sharing individual patient data from interventional clinical studies conducted in patients and non-interventional clinical studies using patient data
- Focus is on the data and meta-data to be provided
- Based on CRDSA expertise and CRDSA research – for example:

## Establishing a Basis for Secondary Use Standards for Clinical Trials

Published on: March 8, 2023
Ernest Odame, Tracy Burgess, Luk Arbuckle, Andrei Belcin, Gwenyth Jones, Peter Mesenbrink, Ramona Walls, Aaron Mann
*Study seeks to understand how different forms of data meet the needs of researchers.*



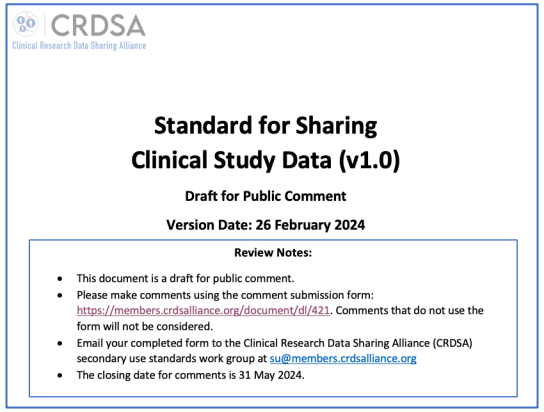
# Data Sharing Standard - Scope

- This version of the standard does not include:

  - What studies are to be shared
  - When studies are to be shared
  - How access is to be provided

- Updated versions will include these topics

  - What studies: All studies/patient studies/ data from secondary analysis?
  - When: After publication/regulatory approval/ medicine termination?
  - Who: How is access governed?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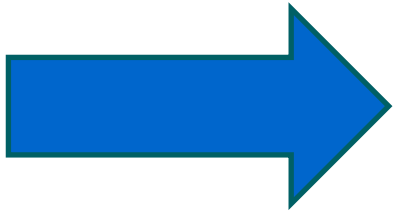

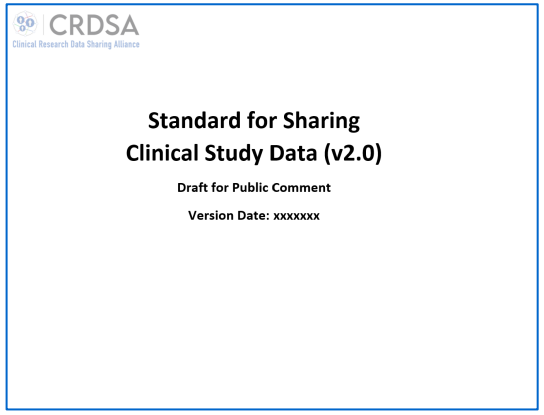
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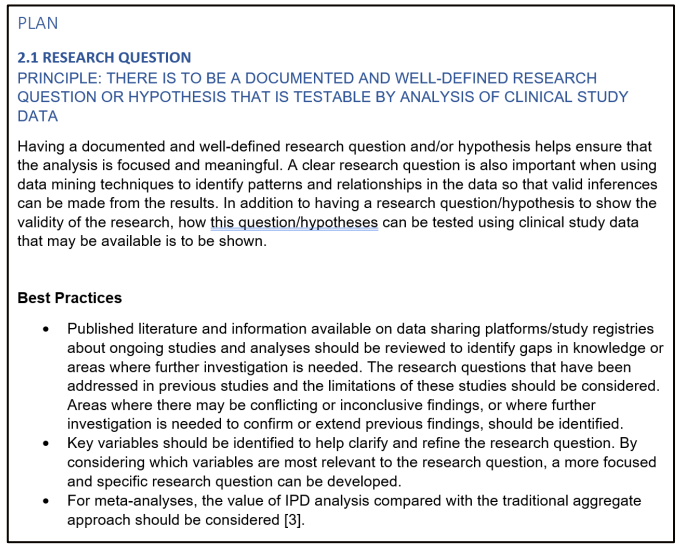
**Standard for Sharing**
**Clinical Study Data (v2.0)**

**Draft for Public Comment**

**Version Date: xxxxxxx**

# Structure of the Standards

## Principles (requirements)



PLAN

**2.1 RESEARCH QUESTION**

PRINCIPLE: THERE IS TO BE A DOCUMENTED AND WELL-DEFINED RESEARCH QUESTION OR HYPOTHESIS THAT IS TESTABLE BY ANALYSIS OF CLINICAL STUDY DATA

Having a documented and well-defined research question and/or hypothesis helps ensure that the analysis is focused and meaningful. A clear research question is also important when using data mining techniques to identify patterns and relationships in the data so that valid inferences can be made from the results. In addition to having a research question/hypothesis to show the validity of the research, how this question/hypotheses can be tested using clinical study data that may be available is to be shown.

**Best Practices**

- Published literature and information available on data sharing platforms/study registries about ongoing studies and analyses should be reviewed to identify gaps in knowledge or areas where further investigation is needed. The research questions that have been addressed in previous studies and the limitations of these studies should be considered. Areas where there may be conflicting or inconclusive findings, or where further investigation is needed to confirm or extend previous findings, should be identified.
- Key variables should be identified to help clarify and refine the research question. By considering which variables are most relevant to the research question, a more focused and specific research question can be developed.
- For meta-analyses, the value of IPD analysis compared with the traditional aggregate approach should be considered [3].

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)

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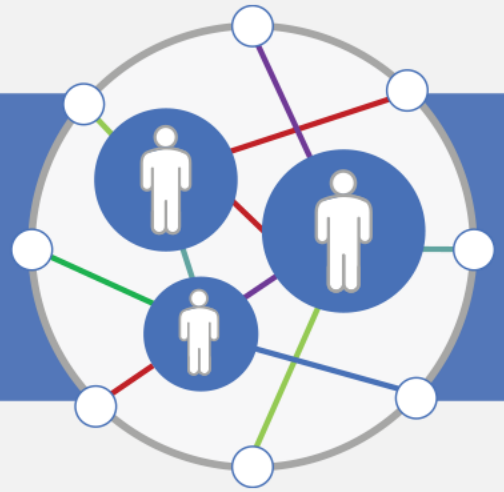
**Checklist**
**(for case-by-case exceptions)**

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

PLAN

| | | Yes/No/NA | NA Explanation |
|---|---|---|---|
| RESEARCH QUESTION | Is there a documented and well-defined research question and/or hypothesis that is testable using clinical trial data? | | |
| STUDIES | Have studies that include the required data been objectively identified and assessed using predefined criteria? | | |
| TEAM | Does the team have statistical expertise and experience in clinical trial data analysis as shown by statistical qualifications and previous analyses of clinical study data? | | |
| | Does the team include the expertise and skill sets needed to navigate clinical study documents and fully understand the relationship of study designs to the intended analysis as shown by formal training and/or previous research? | | |
| | Does the team include expertise to manage the types of datasets being accessed and use the relevant software as shown by formal training and/or previous research? | | |
| | Does the team include specific expertise relevant for the analysis (e.g., MedDRA expertise for analysis of safety) as evidenced by formal training and/or previous research? | | |
| SAP | Is there a prespecified statistical analysis plan (SAP) dated before the analysis was conducted? | | |
| | Does the SAP include all of the following?<br>- The questions and hypotheses being addressed<br>- Effect measure of interest (e.g., for inferential studies: odds ratio, risk or rate ratio, risk or rate difference, absolute difference)<br>- The populations and variables to be analyzed, including details of any subjects and data that will be included and excluded | | |



# Content Overview

# Contents

CRDSA

## 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

# Benchmarks for Datasets and Documentation

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| | Tier 1 25,000 and above | | Tier 2 5,000 to 24,999 | | Tier 3 4,999 or fewer | |
|---|---|---|---|---|---|---|
| | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 |
| Raw | 100% | 100% | 73% | 86% | 83% | 100% |
| Analysis | 92% | 93% | 82% | 86% | 67% | 86% |
| Protocol | 100% | 100% | 73% | 93% | 83% | 100% |
| Annotated CRF | 100% | 93% | 64% | 86% | 67% | 86% |
| Reporting and Analysis Plan / SAP | 100% | 100% | 73% | 86% | 67% | 86% |
| CSR | 92% | 86% | 82% | 86% | 33% | 86% |
| Data Specifications | 75% | 79% | 64% | 86% | 50% | 71% |
| **Average** | **94% v. 93% (nominal decrease)** | | **73% v. 87% (19% increase)** | | **64% v. 88% (36% increase)** | |

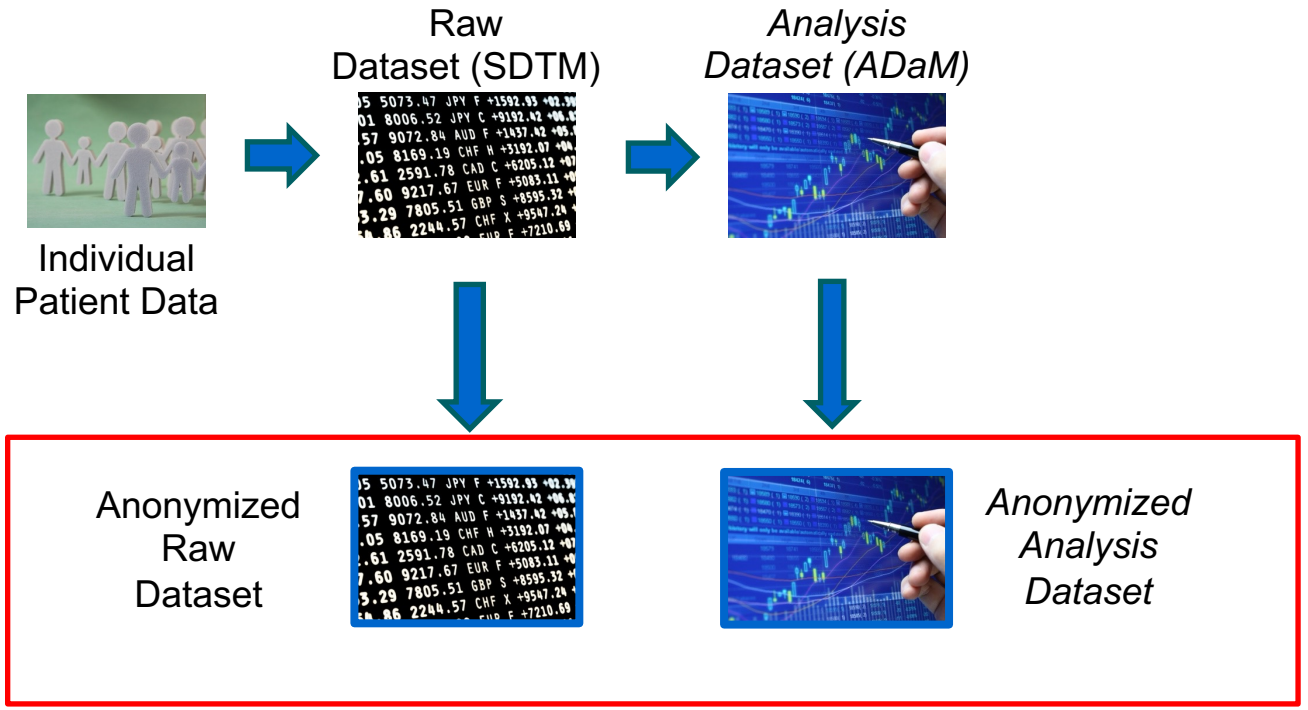
- Commitments to share exceed 80% across all tiers
  - Except Data Specifications
  - Some sponsors are only sharing the CSR synopsis
- Reference CRDSA's 2023 update to "A Review of Biopharma Sponsor's Data Sharing Policies and Protection Methodologies"

# Notable Requirements

# Notable requirements - Datasets

## 2.1 DATASETS

PRINCIPLE: ANONYMIZED RAW DATASETS AND ANALYSIS-READY DATASETS ARE TO BE MADE AVAILABLE FOR DATA SHARING

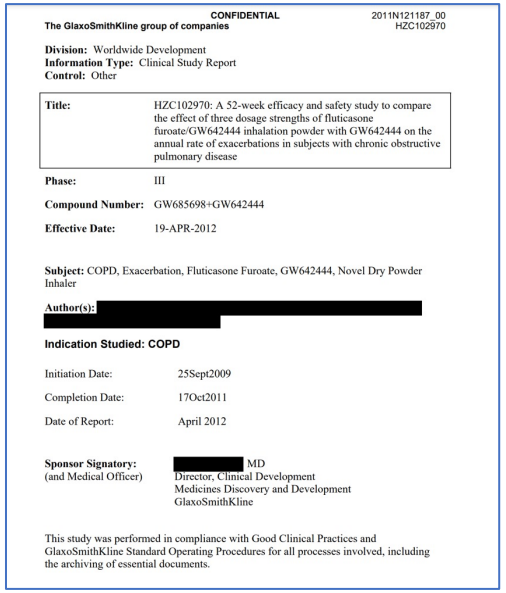


# Notable requirements – Clinical study report

## 2.2 SUPPORTING DOCUMENTATION AND METADATA

PRINCIPLE: SUPPORTING DOCUMENTS AND METADATA ARE TO BE SHARED SO THAT RESEARCHERS CAN UNDERSTAND AND USE THE DATASETS. THE FOLLOWING ARE TO BE INCLUDED IN THE DATA CONTRIBUTION:

This includes the core Clinical Study Report without patient listings



CONFIDENTIAL
2011N121187_00
The GlaxoSmithKline group of companies
HZC102970

**Division:** Worldwide Development
**Information Type:** Clinical Study Report
**Control:** Other

| | |
|---|---|
| **Title:** | HZC102970: A 52-week efficacy and safety study to compare the effect of three dosage strengths of fluticasone furoate/GW642444 inhalation powder with GW642444 on the annual rate of exacerbations in subjects with chronic obstructive pulmonary disease |
| **Phase:** | III |
| **Compound Number:** | GW685698+GW642444 |
| **Effective Date:** | 19-APR-2012 |

**Subject:** COPD, Exacerbation, Fluticasone Furoate, GW642444, Novel Dry Powder Inhaler

**Author(s):** [redacted]

**Indication Studied: COPD**

| | |
|---|---|
| Initiation Date: | 25Sept2009 |
| Completion Date: | 17Oct2011 |
| Date of Report: | April 2012 |

**Sponsor Signatory:** [redacted] MD
(and Medical Officer) Director, Clinical Development
Medicines Discovery and Development
GlaxoSmithKline

This study was performed in compliance with Good Clinical Practices and GlaxoSmithKline Standard Operating Procedures for all processes involved, including the archiving of essential documents.

# Notable requirements – Clinical study report

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**The Clinical Study Report contains important study details that inform secondary analyses**

**Study objectives**

**Investigational plan**

- Overall study design and plan
- Discussion of study design and control groups
- Selection of study population
- Treatments
- Efficacy and safety variables
- Data quality assurance
- Statistical methods planned and determination of sample size
- Changes in the conduct of the study or planned analyses

**Study patients**

- Disposition of patients
- Protocol deviations

**Efficacy evaluation**

- Data sets analyzed
- Demographic and other baseline characteristics
- Measurement of treatment compliance
- Efficacy results

**Safety evaluation**

- Extent of exposure
- Adverse events
- Deaths, other serious adverse events, and other significant adverse events
- Clinical laboratory evaluation
- Vital signs, physical findings and other observations related to safety
- Safety conclusions

**Discussion and overall conclusions**

# Notable requirements – Transformation report

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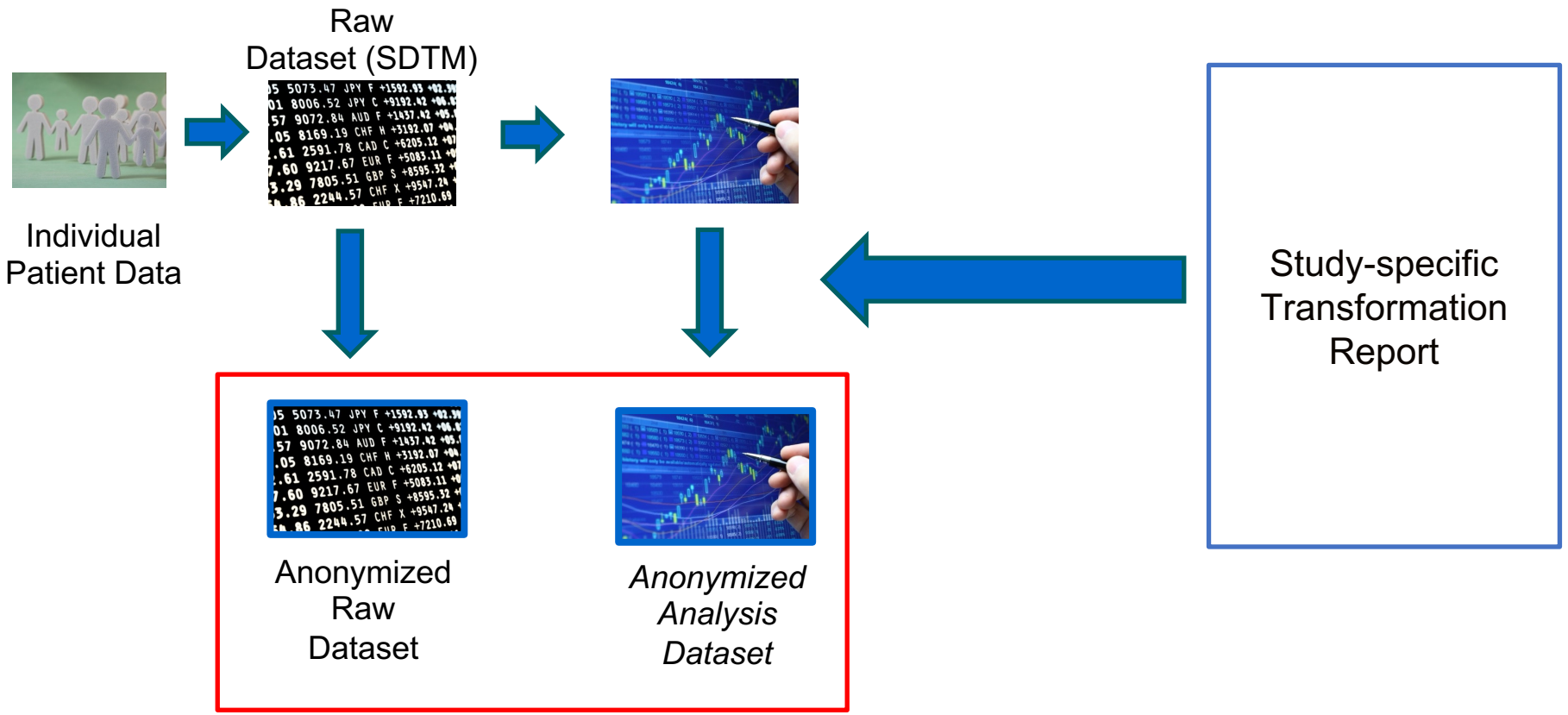
## 2.3 DATA TRANSFORMATION REPORT

PRINCIPLE: DATA TRANSFORMATIONS ARE TO BE DOCUMENTED IN A STUDY-SPECIFIC TRANSFORMATION REPORT



# Notable requirements – Transformation report

## 2.3 DATA TRANSFORMATION REPORT

PRINCIPLE: DATA TRANSFORMATIONS ARE TO BE DOCUMENTED IN A STUDY-SPECIFIC TRANSFORMATION REPORT

Study-specific Transformation Report

The anonymization and redaction methods used are to be clearly documented and made available with study datasets and documents including:

- Specificity on the risk assessment; application of quantitative or qualitative methodology; and the relevant factors considered in the assessment
- Variables: information on any variables that have been redacted or changed
- Adverse events: information on any changes to adverse events, inclusive of any redactions or reclassifications (e.g., to a high-level group term or MedDRA [9] system organ class)
- Data removal: information on any dataset domains or data types (e.g., genetic data, exploratory biomarkers) that have been removed

# Notable requirements – Transformation report

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**2.3.3 Transformation report format**: The transformation report is to contain the dataset domain, variable name, the applicable change or transformation made to the variable, and the reason for the action taken. To illustrate, a transformation report may be in the following format:

Study-specific Transformation Report

| Dataset Domain | Variable Name | Change/Transformation |
|---|---|---|
| Domain Examples:<br>- Demographics (DM)<br>- Concomitant Medications (CM)<br>- Adverse Events (AE) | Variable Examples:<br>- AGE<br>- SEX<br>- RACEO<br>- CMTRT<br>- COTXT | Name the action taken. For example:<br>- Values removed/suppressed/dropped<br>- Values offset/shifted by [technique name]<br>- Outliers grouped (example: top-to-bottom coding)<br>- Values grouped to higher granularity or per [standard/specification reference]<br>- Values (numerical) generalized by [specify the parameters, banding intervals, etc.]<br><br>Explain or reference to a reasoning underpinning the decision to take such action, such as:<br>- sensitive patient information<br>- variable blank<br>- grouped or banded to reduce reidentification risk (e.g., country to region) |

# Notable requirements – When supporting information is to made available

## 2.4 PROVISION OF SUPPORTING DOCUMENTATION

PRINCIPLE: SUPPORTING DOCUMENTATION IS TO BE MADE AVAILABLE TO RESEARCHERS INDEPENDENT OF DATA REQUEST OR DATA ACCESS

FIRST TIME DATA IS SHARED


- Summary protocol
- Study results
- Latest study protocol or plan
- Statistical analysis plan

- Annotated case report form
- Core clinical study report
- Data transformation report
- Dataset specification
- Data dictionary
- Encoding information

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## 2.4 PROVISION OF SUPPORTING DOCUMENTATION

PRINCIPLE: SUPPORTING DOCUMENTATION IS TO BE MADE AVAILABLE TO RESEARCHERS INDEPENDENT OF DATA REQUEST OR DATA ACCESS

AFTER DATA IS SHARED FOR THE FIRST TIME


- Summary protocol
- Study results
- Latest study protocol or plan
- Statistical analysis plan

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- Annotated case report form
- Core clinical study report
- Data transformation report
- Dataset specification
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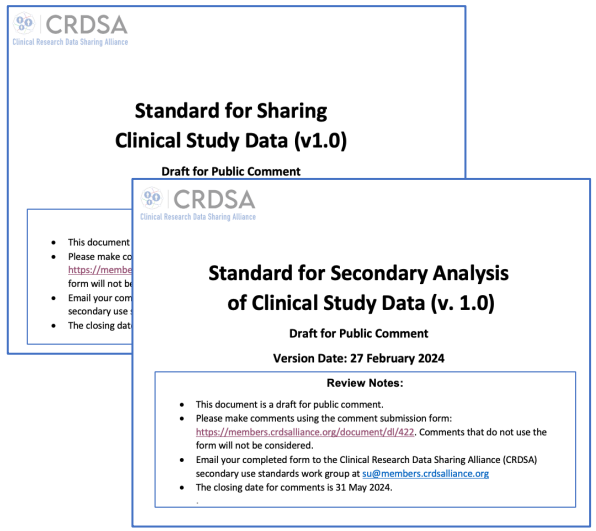
# Adoption

# Adoption




The standards can be adopted by data sharing platforms, funders, research institutions, and scientific journals.

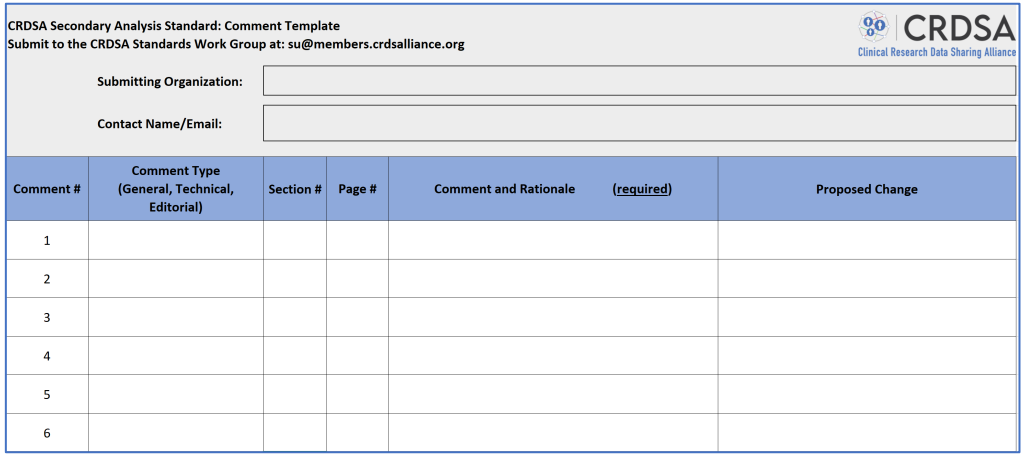
When adopting a CRDSA standard, the organization incorporates the principles into their policy (the organization governs compliance with the policy), for example:

*"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)



CRDSA Secondary Analysis Standard: Comment Template
Submit to the CRDSA Standards Work Group at: su@members.crdsalliance.org

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Clinical Research Data Sharing Alliance

Submitting Organization:

Contact Name/Email:

| Comment # | Comment Type (General, Technical, Editorial) | Section # | Page # | Comment and Rationale (required) | Proposed Change |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |

- Email your completed form to the CRDSA secondary use standards work group at su@members.crdsalliance.org
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# Q&A

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# Thank you!

**For additional resources and information, please visit:**

**https://crdsalliance.org/resources**