

# Data Resolution Workflow

CCTS Biostatistics Core

January 2024

## Overview

Use the Data Resolution Workflow to flag, resolve, and document data issues or discrepancies.

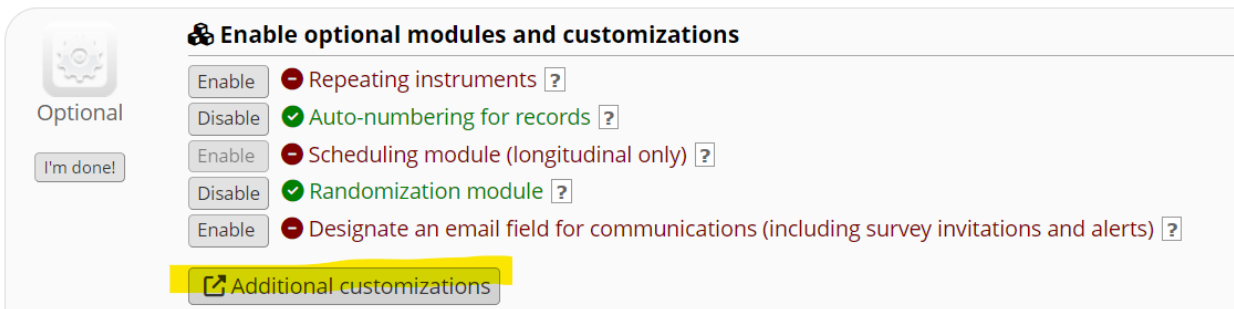
Use case: A member of your team might notice a very high value for a patient's clinical lab test. They can open a query indicating that the value needs review.

- If the value is incorrect—for example, the result of a typo—it can be corrected in the patient's record and the query can be marked as resolved.
- If the value is correct, it should be left as-is. The query can be closed with a note that the value has been validated.

[See a video overview of the Data Resolution Workflow.](#)

## Enable the Workflow

First, enable the module by going to Project Setup > Additional customizations.



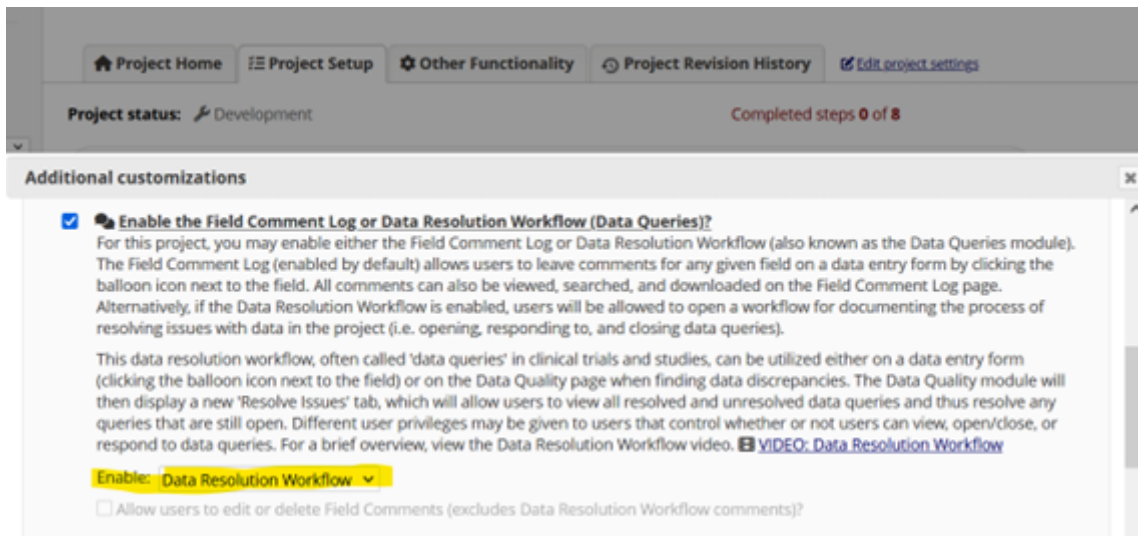
**Enable optional modules and customizations**

Optional

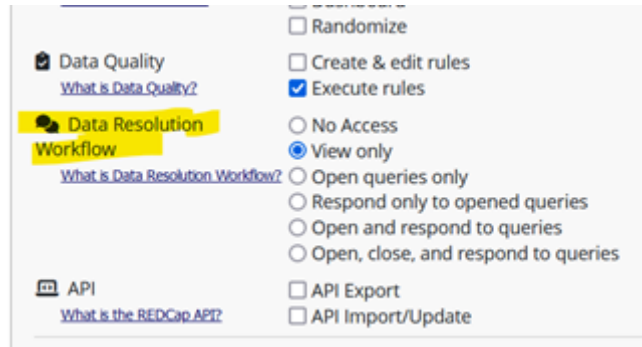
I'm done!

Enable	Repeating instruments ?
Disable	Auto-numbering for records ?
Enable	Scheduling module (longitudinal only) ?
Disable	Randomization module ?
Enable	Designate an email field for communications (including survey invitations and alerts) ?
<b>Additional customizations</b>	

Enable the Data Resolution Workflow.



Then, you must grant access to the workflow for the correct users on the User Rights page.



## Open a Query

### On a Data Entry Form

Open a data entry form for an existing record. Notice the gray speech bubble icon next to each field.

**Demographics** Data Access Group: **Site A** ?

**Editing existing Study ID 1.** Smith, John

**Study ID** 1  
To rename the record, see the record action drop-down at top of the [Record Home Page](#).

**Consent Information**

**Date subject signed consent**  Today Y-M-D  
YYYY-MM-DD

**Upload the patient's consent form**

**Database ID**

Clicking that icon will open a window where you can either verify the data value or flag it as needing review. If a value needs review, you can assign the task to another user and send that person an alert.

**Data Resolution Workflow**

[VIDEO: Data Resolution Workflow](#)

This pop-up displays the Data Resolution Workflow for the specified record for a given field and/or Data Quality rule. Users with appropriate user privileges may open data queries to begin a documented process of resolving an issue with the data. Opened data queries may thus be responded to by users with appropriate privileges, and then they may be closed once the issue has been resolved. All data queries can also be viewed on the Resolve Issues page in this project.

Study ID: **1**  
 Field: **db\_id** ("Database ID")  
 Status: Not Opened

Date/Time	User	Comments and Details
12/01/2023 5:31pm	rlane7	<p><input checked="" type="radio"/> <b>Verified data value</b></p> <p>— OR —</p> <p><input type="radio"/> <b>Open query</b></p> <p>Assign query to a user (optional): <input type="text" value="-- select user --"/></p> <p>Notify this user of their assignment using: <input type="checkbox"/> Email <input type="checkbox"/> REDCap Messenger</p> <p>Comment (optional): <input style="width: 100%;" type="text"/></p>

### On the Data Quality Page

Open the Data Quality module and run one or more rules to check for incorrect or invalid values. If there are any issues, click "View" to see the list.

✔ Processing Complete!

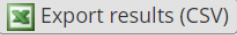
Execute rules: All All except A&B Clear

Apply to: All Records


Rule #	Rule Name	Rule Logic (Show discrepancy only if...)	Real-time execution <span style="font-size: small;">?</span>	Total Discrepancies
A	Blank values*	-		<input type="button" value="Execute"/>
B	Blank values* (required fields only)	-		<input type="button" value="Execute"/>
C	Field validation errors (incorrect data type)	-		<input type="button" value="Execute"/>
D	Field validation errors (out of range)	-		<input type="button" value="Execute"/>
E	Outliers for numerical fields (numbers, integers, sliders, calc fields)**	-		<input type="button" value="Execute"/>
F	Hidden fields that contain values***	-		<input type="button" value="Execute"/>
G	Multiple choice fields with invalid values	-		<input type="button" value="Execute"/>
H	Incorrect values for calculated fields	-		1 <span style="font-size: small; color: blue;">export</span> <span style="border: 2px solid red; border-radius: 50%; padding: 2px 5px; color: blue;">view</span>
I	Fields containing "missing data codes"	-		<input type="button" value="Execute"/>

You will see a column titled “Resolve issue” in the popup window. Click the button beside any issue to review it and either verify it or open a query.

Rule: **Incorrect values for calculated fields**



Discrepancies found: **2** 

! Fix ALL incorrect calculated values? Fix calcs now

Record (Sorted by DAG)	Discrepant fields with their values	Status	Resolve issue 
1 Smith, John (Site A)	"Number" num = "1" (Calculated value should be "2")	Incorrect value	<span style="border: 1px solid #ccc; padding: 2px 10px;">0 comments</span>
7522-1 Andrews, Tommy (Site A)	"Number" num = [no data] (Calculated value should be "2")	Incorrect value	<span style="border: 1px solid #ccc; padding: 2px 10px;">0 comments</span>

## Resolve Open Queries

If a query has been opened about a value, a red icon will appear next to that value on the data collection form. Click that icon to view the details.

2
View equation

All queries will also appear on the Resolve Issues tab of the Data Quality module. Click the button beside an issue to view the details.


### Data Quality

 Find Issues
 Resolve Issues 1
 Resolution Metrics


 [VIDEO: Data Resolution Workflow](#) or [Read introduction to Data Resolution Workflow](#)

This page displays all data queries that are currently unresolved or have already been resolved using the Data Resolution Workflow. Some issues may have been initiated by users on data collection instruments, and others may have been initiated after executing Data Quality rules on the Find Issues tab. The table lists the name of the record and the specific field or Data Quality rule to which the data query belongs, as well as the user assigned to the query (if applicable), the number of days the data query has been open, and a brief snippet of the query's first and last comment. The results in the table can be filtered by the query status type (e.g., open, closed), by certain fields or Data Quality rules, and also by users assigned to it. Each data query may be viewed by clicking the button to its left.

**Data Resolution Dashboard** Filters: Open / unresolved issues (1)

 Export

Click button to view data query

 1 comment

**Record**  
(Sorted by DAG)

1 Smith, John  
(Site A)

**Data Quality rule and/or Field**

Field: num  
(Number)

**User Assigned**

-

**Days Open**

0

**First Update**

riane7 (01/04/2024 1:01pm):  
"Needs review"

**Last Update**

[same as first update]

After you have investigated the status of a value, you may need to change it in a record. Alternatively, you may discover that the existing value is correct. Either way, you can respond to the query with a comment to capture that information and then close the query or send it to someone for further review.

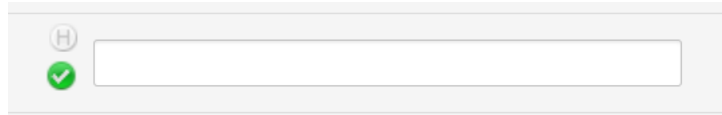
Study ID: **1**  
 Field: **num** ("Number")  
 Status: 🚩 **Open / Unresolved** (unresponded)

Date/Time	User	Comments and Details
01/04/2024 12:54pm	rlane7	Data Changes Made: num = '1'
01/04/2024 1:01pm	rlane7	Action: <b>Opened query</b> Comment: "Needs review" <a href="#">↔ Assign query to a user</a>
01/04/2024 1:13pm	rlane7	<input checked="" type="radio"/> <b>Reply with response:</b> Upload file (optional): — OR — <input type="radio"/> <b>Close the query</b> Comment: <div style="border: 1px solid #ccc; padding: 5px; width: fit-content;">                         -- choose response --                          -- choose response --                          Corrected - Data missing                          Corrected - Typographical error                          Corrected - Wrong source used                          Verified - Confirmed correct (no error)                          Other                     </div>

Respond to query Cancel

## Review

Once a field has been verified, a green checkmark will appear next to it on the data entry form.



You can view or download a list of open, verified, and resolved issues on the Resolve Issues tab. The Resolution Metrics page includes some statistics about issues that have been opened and resolved.

Data Resolution Dashboard		Filters:	Assigned	Days Open	First Update	Last Update
Export	Click button to view data query	Data Verified (3) All status types (4) Data Verified (3) Data De-verified (0) Open / unresolved issues (0) - Open unresponded (0) - Open responded (0) Closed / resolved issues (1)	Assigned			
1 comment	1 Smith, John (Site A)	Field: <b>date_visit</b> (Date of baseline visit)	-	-	rlane7 (12/01/2023 5:25pm): ""	[same as first update]
1 comment	1 Smith, John (Site A)	Field: <b>db_id</b> (Database ID)	-	-	rlane7 (12/01/2023 5:32pm): ""	[same as first update]
1 comment	1 Smith, John (Site A)	Field: <b>first_name</b> (First Name)	-	-	rlane7 (01/04/2024 12:50pm): ""	[same as first update]