



Data Resolution Workflow



THE UNIVERSITY OF
CHICAGO MEDICINE &
BIOLOGICAL SCIENCES



CENTER FOR
RESEARCH
INFORMATICS

© 2015 Vanderbilt University

▶ WHAT IS DATA RESOLUTION WORKFLOW?

The Data Resolution Workflow allows users to open a workflow for documenting the process of resolving issues with data in the project (i.e. opening, responding to, and closing data queries). This data resolution workflow, often called 'data queries' in clinical trials and studies, can be utilized either on a data entry form (clicking the balloon icon next to the field) or on the Data Quality page when finding data discrepancies. The Data Quality module will then display a new 'Resolve Issues' tab, which will allow users to view all resolved and unresolved data queries and thus resolve any queries that are still open. Different user privileges may be given to users that control whether or not users can view, open/close, or respond to data queries.

For a brief overview, view the Data Resolution Workflow video:



[VIDEO: Data Resolution Workflow](#)

▶ ENABLE THE DRW MODULE

On the Project Setup tab, click on Additional customizations:



Complete!

[Not complete?](#)

Enable optional modules and customizations

| | |
|--|--|
| <input type="button" value="Disable"/> | <input checked="" type="checkbox"/> Auto-numbering for records ? |
| <input type="button" value="Enable"/> | <input type="checkbox"/> Scheduling module (longitudinal only) ? |
| <input type="button" value="Enable"/> | <input type="checkbox"/> Randomization module ? |
| <input type="button" value="Disable"/> | <input checked="" type="checkbox"/> Designate an email field to use for invitations to survey participants ? Field currently designated: <code>email_address</code> ("Email Address") |

Then check off the Enable Data Resolution Workflow feature:

 **Enable the Field Comment Log or Data Resolution Workflow (Data Queries)?**

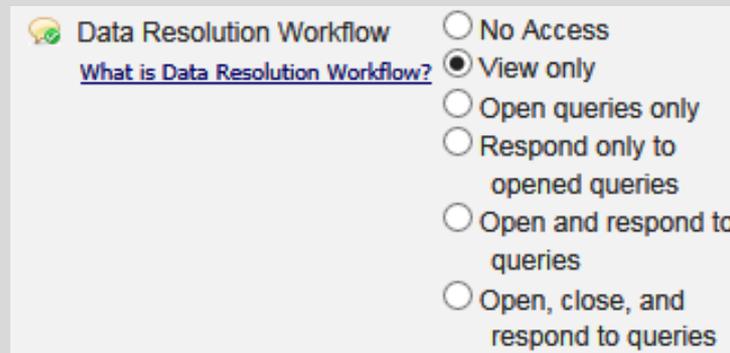
For this project, you may enable either the Field Comment Log or Data Resolution Workflow (also known as the Data Queries module). The Field Comment Log (enabled by default) allows users to leave comments for any given field on a data entry form by clicking the balloon icon next to the field. All comments can also be viewed, searched, and downloaded on the Field Comment Log page. Alternatively, if the Data Resolution Workflow is enabled, users will be allowed to open a workflow for documenting the process of resolving issues with data in the project (i.e. opening, responding to, and closing data queries).

This data resolution workflow, often called 'data queries' in clinical trials and studies, can be utilized either on a data entry form (clicking the balloon icon next to the field) or on the Data Quality page when finding data discrepancies. The Data Quality module will then display a new 'Resolve Issues' tab, which will allow users to view all resolved and unresolved data queries and thus resolve any queries that are still open. Different user privileges may be given to users that control whether or not users can view, open/close, or respond to data queries. For a brief overview, view the Data Resolution Workflow video.  [VIDEO: Data Resolution Workflow](#)

Enable:

▶ SET USER PRIVILEGES

Before the users in your project can begin utilizing the Data Resolution Workflow, they must first be given user privileges to do so. These user privileges dictate the things which they are allowed to do within the Data Resolution Workflow. Navigate to the User Rights page where you will see a new section of privileges specifically for the Data Resolution Workflow. You may give any user one of the following privileges: no access, view only, respond only, and open/close/respond to queries. All users will initially have 'no access' privileges.



The screenshot shows a user interface for setting privileges for the 'Data Resolution Workflow'. On the left, there is a green lightbulb icon, the text 'Data Resolution Workflow', and a blue underlined link that says 'What is Data Resolution Workflow?'. To the right of this text is a vertical list of six radio button options. The first option, 'No Access', is unselected. The second option, 'View only', is selected, indicated by a solid black dot in the center of the radio button. The remaining four options are unselected: 'Open queries only', 'Respond only to opened queries', 'Open and respond to queries', and 'Open, close, and respond to queries'.

 Data Resolution Workflow
[What is Data Resolution Workflow?](#)

- No Access
- View only
- Open queries only
- Respond only to opened queries
- Open and respond to queries
- Open, close, and respond to queries

▶ OPENING DATA QUERIES

An open data query implies that there is an issue with a data value that needs to be resolved. Opening the query initiates the process of investigating the issue and resolving it (i.e. closing the query). The most typical place to open a data query is for a field on a data entry form. On the form, click the gray balloon next to the field, which will open up the Data Resolution Workflow pop-up. This will allow you to open a new query if you have appropriate user privileges to do so in which you can leave a descriptive comment along with the ability to assign that particular data query to another user (optional).

Subject ID: [1](#)
Event: **Baseline**
Field: **type** ("Type of diabetes?")
Status:  **Not Opened**

| Date/Time | User | Comments and Details |
|-------------------|----------|--|
| 09/22/2015 3:51pm | jacevedo | <p><input checked="" type="radio"/> Verified data value</p> <p>— OR —</p> <p><input type="radio"/> Open query</p> <p>Assign query to a user (optional): <input type="text" value="-- select user --"/></p> <p>Comment (optional): <input type="text"/></p> |

Verified data value

Cancel

▶ OPENING DATA QUERIES

Data queries may also be opened on the Data Quality page when viewing the results of an executed Data Quality rule in which a button to open the Data Resolution Workflow will appear next to each result in the pop-up. If a data query's status is either 'Closed' or 'Data Verified', it will not be initially displayed as visible in Data Quality discrepancy results anymore but will be considered as excluded (since it is considered resolved). Any excluded results can always be made visible by clicking the 'view' link in the Data Quality results pop-up.

Find Issues Resolve Issues 1 Resolution Metrics

This module will allow you to execute data quality rules upon your project data to check for discrepancies in your data. Listed below are some pre-defined data rules that you may utilize and run. You may also create your own rules or edit, delete, or reorder the rules you have already created. To find discrepancies for a given rule, simply click the Execute button next to it, or click the Execute All Rules button to fire all the rules at once. It will provide you with a total number of discrepancies found for each rule and will allow you to view the details of those discrepancies by clicking the View link next to each. [Read more detailed instructions.](#)

Data Quality Rules ✔ Processing Complete! **Execute rules:**

Apply to:

| Rule # | Rule Name | Rule Logic (Show discrepancy only if...) | Real-time execution | Total Discrepancies | Delete rule? |
|--------|---|--|---------------------|-------------------------|--------------|
| A | Missing values* | - | | 26 view | |
| B | Missing values* (required fields only) | - | | 1 view | |
| C | Field validation errors (incorrect data type) | - | | 0 view | |
| D | Field validation errors (out of range) | - | | 0 view | |
| E | Outliers for numerical fields (numbers, integers, sliders, calc fields) | - | | 0 view | |
| F | Hidden fields that contain values** | - | | 0 view | |
| G | Multiple choice fields with invalid values | - | | 0 view | |
| H | Incorrect values for calculated fields | - | | 0 view | |

RESPONDING TO DATA QUERIES

Any user with 'respond' privileges will be able to respond to an open query (even if it is assigned to a specific user). The responder may select a response type (e.g. typographical error) and provide a descriptive comment with the ability to also attach a file (optional). Once a query has been responded to, a user with 'close' privileges may close the query, after which it will be considered resolved.

Subject ID: [1](#)
Event: **Baseline**
Field: **type** ("Type of diabetes?")
Status: 🚫 **Open / Unresolved** (unresponded)

| Date/Time | User | Comments and Details |
|-------------------|----------|---|
| 09/22/2015 3:53pm | jacevedo | Data Changes Made: type = 'Type II (2)' |
| 09/22/2015 3:55pm | jacevedo | Action: Opened query Assigned to user: jacevedo (Julissa Acevedo) Comment: "verify with patient" |
| 09/22/2015 4:02pm | jacevedo | <input checked="" type="radio"/> Reply with response: -- choose response -- Upload file (optional): Upload document — OR — <input type="radio"/> Close the query Comment: <input type="text"/> |

- choose response --
- Corrected - Data missing
- Corrected - Typographical error
- Corrected - Wrong source used
- Verified - Confirmed correct (no error)
- Other

▶ USING THE RESOLVE ISSUES PAGE

While data queries will be opened either on a data entry form or via the results of a Data Quality rule, users will most likely respond to and close queries on the 'Resolve Issues' page (seen on left-hand menu). This page will serve as a dashboard that will neatly organize all queries (both open and closed) so that they may be reviewed and so that any open queries may be easily responded to and closed. That page can serve as a nice to-do list for addressing all open queries.

Find Issues Resolve Issues **1** Resolution Metrics

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

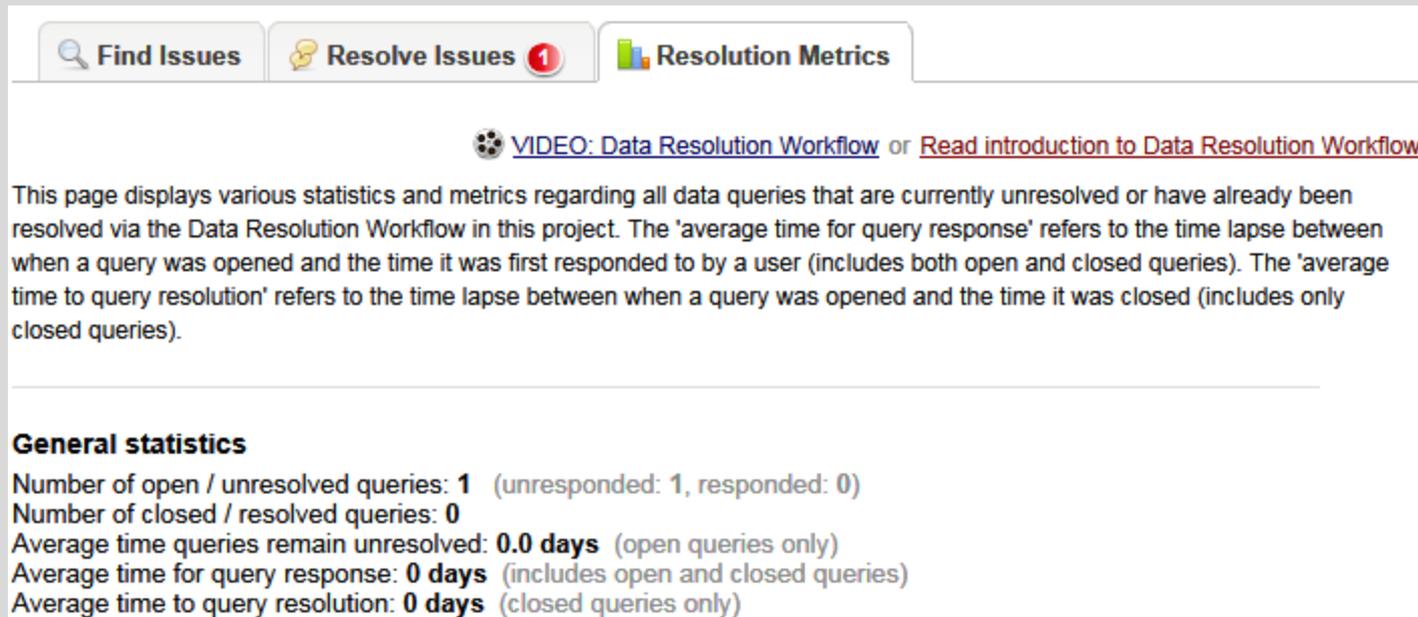
This page displays all data queries that are currently unresolved or have already been resolved using the Data Resolution Workflow. Some issues may have been initiated by users on data collection instruments, and others may have been initiated after executing Data Quality rules on the Find Issues tab. 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) ▾
All fields and rules ▾
All events ▾
User assigned (all users) or not assigned ▾

| Click button to view data query | Record | Data Quality rule and/or Field | User Assigned | Days Open | First Update | Last Update |
|---|----------------------|---|---------------|-----------|--|------------------------|
|  1 comment | 1 Baseline | Field: type (Type of diabetes?) | jacevedo | 0 | jacevedo (09/22/2015 3:55pm): "verify with patient" | [same as first update] |

▶ VIEWING RESOLUTION METRICS

It can sometimes be useful to view metrics with regard to your data queries, such as a count of how many queries are open or closed, the average time that users respond to an open query, or the average time to query resolution. The 'Resolution Metrics' page will provide some useful statistics and some helpful bar charts for viewing progress and activity. If your project utilizes Data Access Groups, it provides even more useful charts to compare the progress of the different groups and to stratify their activity.



The screenshot shows a navigation bar with three buttons: 'Find Issues' (with a magnifying glass icon), 'Resolve Issues' (with a person icon and a red notification badge containing the number '1'), and 'Resolution Metrics' (with a bar chart icon). Below the navigation bar, there is a video icon followed by the text 'VIDEO: [Data Resolution Workflow](#) or [Read introduction to Data Resolution Workflow](#)'. A paragraph of text explains the page's content: 'This page displays various statistics and metrics regarding all data queries that are currently unresolved or have already been resolved via the Data Resolution Workflow in this project. The 'average time for query response' refers to the time lapse between when a query was opened and the time it was first responded to by a user (includes both open and closed queries). The 'average time to query resolution' refers to the time lapse between when a query was opened and the time it was closed (includes only closed queries)'. Below this text is a horizontal line, followed by the section header 'General statistics'. Under this header, four lines of statistics are listed: 'Number of open / unresolved queries: 1 (unresponded: 1, responded: 0)', 'Number of closed / resolved queries: 0', 'Average time queries remain unresolved: 0.0 days (open queries only)', 'Average time for query response: 0 days (includes open and closed queries)', and 'Average time to query resolution: 0 days (closed queries only)'.

Find Issues **Resolve Issues** 1 **Resolution Metrics**

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

This page displays various statistics and metrics regarding all data queries that are currently unresolved or have already been resolved via the Data Resolution Workflow in this project. The 'average time for query response' refers to the time lapse between when a query was opened and the time it was first responded to by a user (includes both open and closed queries). The 'average time to query resolution' refers to the time lapse between when a query was opened and the time it was closed (includes only closed queries).

General statistics

Number of open / unresolved queries: **1** (unresponded: 1, responded: 0)
Number of closed / resolved queries: **0**
Average time queries remain unresolved: **0.0 days** (open queries only)
Average time for query response: **0 days** (includes open and closed queries)
Average time to query resolution: **0 days** (closed queries only)

▶ FOR FURTHER HELP

website

- <https://cri.uchicago.edu/redcap>

email

- redcap@rt.cri.chicago.edu