REDCap Advanced Topics

University of Iowa

Institute for Clinical and Translational Science (ICTS)

https://www.icts.uiowa.edu/confluence/display/ICTSit/REDCap#REDCap-REDCapAdvancedTopicsTraining

REDCap™

Data Quality

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https://www.icts.uiowa.edu/confluence/download/attachments/53149797/REDCap_Data_Quality.pdf

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Data Quality

Data Quality is a new capability in REDCap to verify the integrity of data collected.

Data Quality Pre-defined Rules

Data Quality allows you to apply rules to fields in order to validate your data. The rules are applied by pressing either the "Execute" or "Execute All Rules" buttons.

Data Quality Rules   [Execute All Rules]   [Clear]

Rule #	Rule Name	Rule Logic (Show discrepancy only if...)	Total Discrepancies
a	Missing values*	-	Execute
b	Missing values* (required fields only)	-	Execute
c	Field validation errors (incorrect data type)	-	Execute
d	Field validation errors (out of range)	-	Execute
e	Outliers for numerical fields (numbers, integers, sliders, calc fields)	-	Execute
f	Hidden fields that contain values**	-	Execute
g	Multiple choice fields with invalid values	-	Execute

Data Quality Discrepancies

Values that match the "Rule Logic" are considered as a discrepancy. Clicking the "view" link displays the list of discrepancies.

Data Quality Rules		Processing Complete!	Execute All Rules	Clear

Rule #	Rule Name	Rule Logic (Show discrepancy only if...)	Total Discrepancies	
a	Missing values*	-	0	view
b	Missing values* (required fields only)	-	0	view
c	Field validation errors (incorrect data type)	-	0	view
d	Field validation errors (out of range)	-	5	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	-	1	view

Field Validation Errors

If rule logic discovers a discrepancy, each of the field validation errors can be reviewed and either excluded (to handle exceptions) or the data values can be edited and corrected.

Rule: **Field validation errors (out of range)**

Discrepancies found: **5**

Record	Discrepant fields with their values	Status	Exclude
billybob	mrn = 4321 (min: 10000000, max: 99999999)	Out of range	exclude

Data Quality Custom Rules

A custom rule is used to catch data entry errors. It can be created by defining the condition that matches a range of incorrect data values.

	Participants below age 18	[age] < 18
Add	**Enter descriptive name for new rule**	**Enter logic for new rule**
	(e.g. Participants below age 18)	(e.g. [age] < 18)
		How do I use special functions?

Editing Custom Rules

A custom rule can be edited in place by hovering over the "Rule Name" or the "Rule Logic" and clicking on the pencil icon. The "Save" button performs the rule update.

Executing Custom Rules

A custom rule is executed and discrepancies are viewed in a similar fashion to predefined rules.

	1	Participants below age 18	[age] < 18	Execute	

	1	Participants below age 18	[age] < 18	**3** view	

Rule #1: **Participants below age 18**
Discrepancies found: **3**

Record	Discrepant fields with their values	Status	Exclude
1242	age: 4	Issue exists	exclude
1243	age: 17	Issue exists	exclude
1244	age: 12	Issue exists	exclude

Discrepancy Exclusions

A discrepancy can be excluded from future data quality verifications by clicking on the "exclude" link. In addition, previously excluded discrepancies can be displayed by clicking on the "view" link.

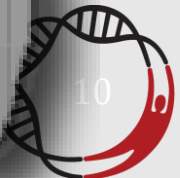Rule #1: **Participants below age 18**

Discrepancies found: **2**

(**1 exclusion not displayed** - view)

Record	Discrepant fiel...	Exclude
1243	age: 17	exclude
1244	age: 12	remove exclusion

REDCap Newsletter

- **Monthly REDCap Newsletter**
  - ❑ Upcoming Training
  - ❑ Walk-in Hours Schedule
  - ❑ Helpful Tips
  - ❑ New REDCap Functionality
  - ❑ Frequently Asked Questions (and answers)
  - ❑ REDCap Best Practices

- **REDCap LISTSERV Subscription:**
  - ❖ https://list.uiowa.edu/scripts/wa.exe?SUBED1=REDCAP&A=1

REDCap Documentation

- **Training within REDCap:**
  - **FAQs (Help & FAQ Tab):**
    https://redcap.icts.uiowa.edu/redcap/index.php?action=help

  - **Video (Training Resources Tab):**
    https://redcap.icts.uiowa.edu/redcap/index.php?action=training

- **Local REDCap documentation:**
  https://icts.uiowa.edu/confluence/display/ICTSit/REDCap