



CAPACITY

# Registry of patients with COVID-19 including cardiovascular risk and complications

## Data quality: Operating Procedure for quality checks by centres

### Aim of this document:

This document describes the steps that data managers have to perform to ensure quality of the data in the Capacity registry. To provide support, we have already created the data quality scripts that now only require executing. These scripts are built as a post-hoc quality check in REDcap. Please follow the instructions to execute the scripts. By following these steps, together we ensure the data quality is as best as it can be with as little human error as possible.

### Instructions:

1. Go to REDCap homepage on <https://redcap.heart-institute.nl> and log in with your credentials.
2. Click on Data Quality

The screenshot shows the REDCap web interface. The left sidebar contains a menu with the following sections: 'My Projects', 'Project Home and Design', 'Data Collection', 'Applications', 'Reports', 'External Modules', and 'Help & Information'. The 'Data Collection' section is expanded, showing 'Record Status Dashboard', 'Add / Edit Records', and 'Data Quality' (which is circled in red). The 'Applications' section also shows 'Calendar', 'Data Exports, Reports, and Stats', 'Field Comment Log', 'File Repository', 'Data Quality', 'API', and 'API Playground'. The main content area displays the 'CAPACITY' project home, including 'Project Statistics' and 'Upcoming Calendar Events'.

Records in project	1.839
Most recent activity	01-05-2020 10:40
Space usage for docs	229,41 MB

Time	Date	Description
No upcoming events		



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3. Scroll down to data quality checks starting from point 1 (date of inclusion empty)
4. Click execute for script to run, this may take a while for more complex scripts (such as #10)

Rule #	Rule Name	Rule Logic (Show discrepancy only if...)	Real-time execution [?]	Total Discrepancies	003-UMC Groningen	004-Isala Zwolle	005-Amsterdam UMC, locatie AMC	008-Leids Universitair Medisch Centrum	009-UMC Utrecht	010-St. Antonius Ziekenhuis	011-Erasmus MC
A	Blank values*	-		Execute							
B	Blank 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							
H	Incorrect values for calculated fields	-		Execute							
I	Fields containing "missing data codes"	-		Execute							
1	date of inclusion empty	[dsstdat]=""		Execute							
2	age empty	[age_estimateyears]=""		Execute							
3	Age Unit empty	[age_estimateyears]=""		Execute							
4	sex empty	[sex]=""		Execute							
5	Country Empty	[country]=""		Execute							
6	Transfers from other facility	[admission_transfer]=" or [admission_transfer]="-1"		Execute							
7	Admission any date empty	[admission_any_date]=""		Execute							
8	Admission Date empty	[admission_date]=""		Execute							
9	Admission sympt date empty	[admission_sympt_date]=""		Execute							
10	Admission Complaints empty	[admis_complaints(1)]="0" and [admis_complaints(2)]="0" and [admis_complaints(3)]="0" and [admis_complaints(4)]="0" and [admis_complaints(5)]="0" and		Execute							



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- After running, the button changes to the total number of discrepancies and an additional link with "view". Click view to view discrepancies

Rule #	Rule Name	Rule Logic (Show discrepancy only if...)	Real-time execution <sup>7</sup>	Total Discrepancies	003-UMC Groningen	004-Isala Zwolle	005-Amsterdam UMC, locatie AMC	008-Leids Universitair Medisch Centrum	009-UMC Utrecht	010-St. Antonius Ziekenhuis	011-Erasmus MC	012-Radboudumc	013-Amphia Ziekenhuis	014-Catharina Ziekenhuis
A	Blank values*	-		Execute										
B	Blank 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										
H	Incorrect values for calculated fields	-		Execute										
I	Fields containing "missing data codes"	-		Execute										
1	date of inclusion empty	[dsstdat]="		615 <a href="#">view</a> 0		0	0	0	51	86	0	0	0	24
2	age empty	[age_estimateyears]="		Execute										
3	Age Unit empty	[age_estimateyearsu]="		Execute										
4	sex empty	[sex]="		Execute										
5	Country Empty	[country]="		Execute										
6	Transfers from other facility	[admission_transfer]=" or [admission_transfer]="-1"		Execute										
7	Admission any date empty	[admission_any_date]="		Execute										
8	Admission Date empty	[admission_date]="		Execute										
9	Admission sympt date empty	[admission_sympt_date]="		Execute										
10	Admission Complaints empty	[admis_complaints(1)]="0" and [admis_complaints(2)]="0" and [admis_complaints(3)]="0" and [admis_complaints(4)]="0" and [admis_complaints(5)]="0" and		Execute										



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- By clicking on view, REDcap provides a list of all cases together with their discrepancies. By clicking on the discrepant field value (i.e. [no data] in the case of missingness) this opens up the record and the forms in which the data is discrepant (missing, or faulty depending on the script).

Rule #1: date of inclusion empty  
Discrepancies found: 618

Record (Sorted by DAG)	Discrepant fields with their values	Status	Exclude
009-0005 Baseline CAPACITY and ISARIC (009-UMC Utrecht)	"Date of Enrollment" dsstdat: [no data]	Issue exists	exclude
009-0032 Baseline CAPACITY and ISARIC (009-UMC Utrecht)	"Date of Enrollment" dsstdat: [no data]	Issue exists	exclude
009-0033 Baseline CAPACITY and ISARIC (009-UMC Utrecht)	"Date of Enrollment" dsstdat: [no data]	Issue exists	exclude
009-0066 Baseline CAPACITY and ISARIC (009-UMC Utrecht)	"Date of Enrollment" dsstdat: [no data]	Issue exists	exclude
009-0075 Baseline CAPACITY and ISARIC (009-UMC Utrecht)	"Date of Enrollment" dsstdat: [no data]	Issue exists	exclude
009-0088 Baseline CAPACITY and ISARIC (009-UMC Utrecht)	"Date of Enrollment" dsstdat: [no data]	Issue exists	exclude
009-0091 Baseline CAPACITY and ISARIC (009-UMC Utrecht)	"Date of Enrollment" dsstdat: [no data]	Issue exists	exclude
009-0092 Baseline CAPACITY and ISARIC (009-UMC Utrecht)	"Date of Enrollment" dsstdat: [no data]	Issue exists	exclude
009-0093 Baseline CAPACITY and ISARIC (009-UMC Utrecht)	"Date of Enrollment" dsstdat: [no data]	Issue exists	exclude

- Please provide your data-entry team with the records and discrepancies for them to resolve.

If any questions remain, do not hesitate to ask the Capacity team via:

- The contact-link on [www.capacity-covid.eu](http://www.capacity-covid.eu) or
- E-mail us on [info@capacity-covid.eu](mailto:info@capacity-covid.eu)